This is a reproduction of a library book that was digitized by Google as part of an ongoing effort to preserve the information in books and make it universally accessible.

Google™ books

https://books.google.com

NYPL RESEARCH LIBRARIES
3 3433 08754395 9

Digitized by Google

Digitized by Google

Royal
OPC
Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

OFFICIAL COPY.

ANNALS OF THE ROYAL OBSERVATORY, CAPE OF GOOD HOPE.

VOL. II. PART III.

OCCULTATIONS OF STARS BY THE MOON,

OBSERVED AT THE

ROYAL OBSERVATORY, CAPE OF GOOD HOPE,

IN THE YEARS

1881 TO 1895.

UNDER THE DIRECTION OF

SIR DAVID GILL, K.C.B., L.L.D. (Abd. & Edin.), F.R.S., Hon. F.R.S., Ed., ETC.,
HIS MAJESTY'S ASTRONOMER AT THE CAPE.

PUBLISHED BY ORDER OF THE LORDS COMMISSIONERS OF THE ADMIRALTY,
IN OBEDIENCE TO HIS MAJESTY'S COMMAND.

EDINBURGH:
PRINTED FOR HIS MAJESTY'S STATIONERY OFFICE
BY NEILL & CO., LIMITED, BELLEVUE.

And to be purchased, either directly or through any Bookseller, from
EYRE & SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; or
OLIVER & BOYD, EDINBURGH; or
E. PONSONBY, 116 GRAFTON STREET, DUBLIN.

1901.

Price One Shilling and Sixpence.

NEW YORK PUBLIC LIBRARY
Digitized by Google

THE NEW YORK
PUBLIC LIBRARY
442514 A
ASTOR, LENOX AND
TILDEN FOUNDATIONS
R 1929 L

NEW YORK
PUBLIC
LIBRARY

Digitized by Google

INTRODUCTION.

VOL. I., Part 4 of these Annals contains an account of the Occultations observed at the Royal Observatory, Cape of Good Hope, in the years 1835 to 1880, and a comparison of the results of the observations with Hansen's Tables of the Moon.

The present publication contains precisely similar results for the years 1881 to 1895 inclusive.

After 1895 Occultations of a large number of faint stars were observed; in many cases recent places of these stars are not yet available, so it seems desirable to publish the present series, which is complete, and to defer discussion of the later observations until all the occulted Stars have been sufficiently observed on the meridian.

The instruments employed, their geographical co-ordinates with reference to the Transit-Circle, and their heights above sea-level are :—

	s	"	
10-inch Equatoreal	0·099E	4·40S	40 feet.
7-inch „	0·115W	2·00N	35
7 and 4-inch Heliometer	0·047E	2·01N	40
6-inch Equatoreal	0·044E	3·64S	50
5-inch „	0·059E	3·97S	35
3-inch Theodolite	0·218W	0·00	20
3 and 2½-inch Telescopes	0·047W	0·47S	35

The observers are denoted as follows :—

AP.	J. A. Pead.	G.	D. Gill.
C	W. H. Cox.	M.	G. W. H. Maclear.
E.	W. L. Elkin.	P.	R. T. Pett.
F.	W. H. Finlay.	W. M.	W. G. Morris.

The Sidereal Time given is that derived from comparison of the observer's Chronometer with the Transit-Clock, the error of the latter being determined by observations with the Transit-Circle. In converting the Cape Sidereal Time into Greenwich Mean Time the longitude of the Transit-Circle was assumed to be

$1^h\ 13^m\ 55^s$ East of Greenwich.

The results of the telegraphic operations, published in the *Annals of the Cape Observatory*, vol. i., part 2, give for the longitude of the Transit-Circle

$-1^h\ 13^m\ 54^s{\cdot}76$

Wt. 25522/949.—N.—5/5/02.

Digitized by Google

a value liable to an uncertainty of perhaps $\pm 0^{s}\cdot 2$ on account of the still unsatisfactory character of the determination of the longitude of Aden. For the present we must accept, as the most probable correction applicable to the Greenwich Mean Times printed on pp. 3B to 19B.

$$+ 0^{s}\cdot 24.$$

The Astronomical Latitude of the Transit-Circle adopted for the computations is—

$$- 33^{\circ}\ 56'\ 3''\cdot 4.$$

The corresponding values of ϕ', log. ρ and e are—

$$\left.\begin{aligned}\phi' &= - 33^{\circ}\ 45'\ 26''\cdot 26\\ \text{Log } \rho &= 9\cdot 9995512.\end{aligned}\right\} e = \frac{1}{300}$$

This value of e is used at Greenwich and for the Cape Occultations 1835–1880, and has been used in the present series for the sake of uniformity.

The form of the equations of condition has been adopted without change from the *Cambridge (England) Observations*, vol. xxi. pp. xlviii.–ix.

Let T = the mean local time of observation.
l = the assumed longitude, + when West.
α and δ, the Moon's Tabular Right Ascension and Declination.
π and σ, the tabular horizontal equatoreal parallax and semi-diameter of the Moon.
ρ = the radius vector of the place of observation, the Earth's equatoreal radius being taken as unity.
ϕ' = the geocentric latitude.
θ = the sidereal time corresponding to time T.
α' and δ' the R.A. and Declination of the star occulted.

Compute—

$$x = \frac{\sin(\alpha - \alpha')}{\sin 1''}\cos\delta.$$

$$y = \frac{\sin(\delta - \delta')}{\sin 1''} + x \sin\delta' \tan\tfrac{1}{2}(\alpha - \alpha'.)$$

$$\xi = \frac{\sin\pi}{\sin 1''}\cdot\rho\cos\phi'\sin(\theta - \alpha').$$

$$\eta = \frac{\sin\pi}{\sin 1''}\rho\{\sin\phi'\cos\delta' - \cos\phi'\sin\delta'\cos(\theta - \alpha')\}.$$

$$\tan\chi = \frac{y - \eta}{x - \xi}$$

$$S = \frac{x - \xi}{\cos\chi} = \frac{y - \eta}{\sin\chi}$$

Also let—

Δl be the correction of the assumed longitude in seconds of time ;
ΔT the correction of T in seconds of time ;
$\Delta\alpha$, $\Delta\delta$, &c., the corrections of α, δ, &c. in seconds of arc ;
$\frac{\sin\pi}{\sin 1''}(1 + \rho)$ and $\frac{\sin\sigma}{\sin 1''}(1 + s)$, the sines of the true horizontal equatoreal parallax and semi-diameter, each divided by sin 1″.
$\frac{d\alpha}{dt}$ and $\frac{d\delta}{dt}$ the changes of α and δ in a second of time, estimated in seconds of arc.

Digitized by Google

Calculate the quantities—

$$(a) = \cos\delta\,[\cos\chi + \sin\chi\sin\delta'\sin(a - a')],$$
$$(\delta) = \sin\chi - \cos\chi\sin\delta\sin(a - a'),$$
$$(l) = (a)\frac{da}{dt} + (\delta)\frac{d\delta}{dt},$$
$$m = \rho\sin\pi\cos\phi'\,[\cos\chi\cos(\theta - a') + \sin\chi\sin\delta'\sin(\theta - a')],$$
$$(a') = m - (a),$$
$$(\delta') = \rho\sin\pi\sin\chi\,[\sin\phi'\sin\delta' + \cos\phi'\cos\delta'\cos(\theta - a')] - \sin\chi,$$
$$(\mathrm{T}) = (l) - (1{\cdot}00274)\,15m,$$
$$(\phi') = -\rho\sin\pi\,[\sin\chi\cos\phi'\cos\delta' + \sin\chi\sin\phi'\sin\delta'\cos(\theta - a'), \quad -\cos\chi\sin\phi'\sin(\theta - a')],$$
$$(p) = -\xi\cos\chi - \eta\sin\chi,$$
$$(s) = -\frac{\sin\sigma}{\sin 1''},$$

Then the final equation of condition is—

$$\frac{\sin\sigma}{\sin 1''} - \mathrm{S} = (a)\Delta a + (\delta)\Delta\delta + (a')\Delta a' + (\delta')\Delta\delta' + (\mathrm{T})\Delta\mathrm{T} + (l)\Delta l + (\phi')\Delta\phi' + (p)p + (s)s.$$

The Right Ascension, Declination, and Parallax of the Moon are computed throughout from Hansen's Tables of the Moon. The adopted semi-diameter, however, is different from Hansen's, viz.,—

$$[9{\cdot}43559] \times \pi.$$

In forming the equations of condition the longitude of the observer's telescope has been assumed the same as that of the Transit-Circle, and ρ as at Mean Sea-Level. When a particular phenomenon is observed by more than one observer, the equation is given corresponding only to the instant of one observation; the observation selected is shown by the reference number.

The tables are self-explanatory, but it may be noted that, beside the apparent places of the stars, columns have been added, giving the Mean place for the year of observation. The star-places have been taken from *Newcomb's Catalogue of* 1098 *Standard Clock and Zodiacal Stars* for all stars contained in that work and these places are indicated by an asterisk in the column "Mean Dec." The places of other stars have been adopted from various catalogues, and, as a whole, are fairly reliable; but obviously the whole question of the positions of Zodiacal Stars requires, and is receiving, complete revision. In a subsequent volume it is proposed to publish definitive corrections to the star-places and to the absolute terms of the equations.

Several alterations in the observed times, due to erroneous chronometer corrections, etc., have been made when the Chronometer Rate Book confirmed the conjectural alteration; in cases where such confirmation is not available, two sets of equations are printed with notes. Other suspicious cases are left to the discretion of the Astronomer who may undertake the comparison with a New Lunar Theory. The letter M or S, in the column adjacent to the observer's initial, indicates whether a Mean Solar or Sidereal Chronometer was employed, so that, in the event of any alteration in the observed time, the proper correction may be applied.

Digitized by Google

The reductions of the observations have been made by various computers from time to time as opportunity offered. I am specially indebted to Mr J. Power for his large personal share in the work, and for its final revision.

DAVID GILL.

ROYAL OBSERVATORY, CAPE OF GOOD HOPE,
13*th November* 1901.

Digitized by Google

OCCULTATIONS OF STARS

OBSERVED AT THE

ROYAL OBSERVATORY, CAPE OF GOOD HOPE,

1881–1895.

OBSERVED AND TABULAR QUANTITIES.

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Chron.	Cape Sid. Time.	Remarks.
								h m s	
1	1881 Feb. 3	75 Piscium.....	6·1	D.D.	7 inch	F.	M	5 33 44·2	Moon low. Definition very bad.
2	Mar. 8	1 Geminorum.....	4·3	D.D.	7 inch	F.	M	9 32 58·5	*Note.*
3	18	B.A.C. 4700.....	5·3	R.D.	7 inch	F.	S	10 7 3·1	
4	Oct. 3	19 Aquarii	5·7	D.D.	4 in. Heliom.	P.	M	19 47 2·8	
5	25	Oeltz. Arg. (S.) 15466	6·8	D.D.	7 inch	G.	M	21 33 46·1	
6	31	B.A.C. 7744.....	6·3	D.D.	7 inch	?	M	3 6 35·2	Observer not stated; probably G.
7	Nov. 1	3 Piscium.....	6·5	D.D.	7 inch	?	M	0 25 7·2	Observer not stated; probably G.
8	Dec. 24	ξ Aquarii.....	4·8	D.D.	7 inch	E.	S	3 15 22·6	
9	25	B.D. − 3°·5460....	6·3	D.D.	2 inch	G.	S	2 33 6·3	
10	27	Lalande 268.....	7·5	D.D.	7 inch	F.	S	3 5 57·4	
11	27	d Piscium.....	5·6	D.D.	7 inch	F.	S	4 43 39·4	
12	1882 Jan. 11	ψ Virginis.....	5·0	R.D.	7 inch	P.	S	8 45 31·6	
13	Feb. 7	χ Virginis.....	4·7	R.D.	7 inch	P.	S	9 20 35·5	
14	11	ω^2 Scorpii.....	4·6	R.D.	7 inch	P.	S	12 29 0·5	
15	12	B.A.C. 5758.....	6·6	R.D.	7 inch	M.	S	12 52 16·4	
16	Mar. 7	50 Virginis.....	6·5	R.D.	7 inch	P.	S	8 14 8·8	Vapour passing. Not good. Moon just clear of trees.
17	8	B.A.C. 4679.....	6·5	R.D.	7 inch	P.	S	12 49 23·2	
18	Apr. 20	B.A.C. 1373	5·7	D.D.	7 inch	F.	S	8 53 57·0	
19	May 6	16 Sagittarii.....	6·2	R.D.	7 inch	P.	S	19 8 12·8	
20	29	B.A.C. 4679.....	6·5	D.D.	7 inch	F.	S	15 10 12·9	
21	June 4	g Sagittarii	5·0	R.D.	7 inch	F.	S	22 46 0·6	
22	July 2	β Capricorni.....	3·4	D.B.	7 inch	G.	M	14 58 20·7	
23	21	χ Virginis	4·7	D.D.	6 inch	F.	S	16 57 59·0	
24	21	...	...	D.D.	in. Heliom.	G.	S	58·9	
25	Aug. 18	50 Virginis	6·5	D.D.	7 inch	F.	M	17 22 51·7	
26	27	19 Aquarii	5·7	D.D.	6 inch	F.	S	17 11 9·0	
27	27	ξ Aquarii.....	4·8	D.B.	7 inch	F.	S	1 17 50·2	
28	Sept. 7	5 Cancri.....	6·4	R.D.	7 inch	F.	M	4 2 51·6	
29	Oct. 15	Lalande 29130.....	8·2	D.D.	7 inch	?	M	20 42 49·8	Observer not stated.
30	17	Lalande 32585.....	7·5	D.D.	7 inch	F.	S	21 26 9·3	
31	17	Piazzi XVII. 251...	8·0	D.D.	7 inch	F.	S	21 30 24·0	
32	17	B.D. − 19°·4733..	8	D.D.	7 inch	F.	S	22 17 14·7	
33	Nov. 14	Lalande 34354.....	8·2	D.D.	7 inch	G.	S	0 11 38·7	
34	15	B.D. − 17°·5650..	8	D.D.	7 inch	G.	S	23 47 46·9	
35	16	B.D. − 13°·5661..	7	D.D.	7 inch	G.	S	23 12 23·0	
36	16	B.D. − 14°·5738..	7·5	D.D.	7 inch	G.	S	23 44 32·4	
37	16	...	...	D.D.	6 inch	E.	M	32·7	
38	16	B.D. − 13°·5667..	8·9	D.D.	6 inch	E.	M	23 46 8·6	
39	16	B.D. − 14°·5742..	7·5	D.D.	7 inch	G.	S	0 7 45·6	
40	16	...	...	D.D.	6 inch	E.	M	45·7	
41	16	Lalande 39303.....	8·5	D.D.	7 inch	G.	S	0 53 40·9	
42	18	B.A.C. 7744	6	D.D.	7 inch	G.	S	23 36 50·8	
43	18	...	...	D.D.	6 inch	E.	M	50·9	
44	18	B.D. − 5°·5739...	8	D.D.	6 inch	E.	M	0 12 5·3	
45	18	B.D. − 5°·5735...	8·9	D.D.	6 inch	E.	M	0 18 40·8	
46	18	B.A.C. 7752	6·7	D.D.	6 inch	E.	M	0 49 17·3	
47	Dec. 5	α Virginis	1·2	D.B.	6 inch	G.	M	8 22 36·5	
48	5	...	...	D.B.	4 in. Heliom.	E.	M	36·5	
49	5	...	...	R.D.	6 inch	G.	M	9 5 14·5	
50	5	...	...	R.D.	4 in. Heliom.	E.	M	14·2	

2. Sudden. Near pole of moon. Moon advanced till star was close to some mountain tops and could scarcely be distinguished from them at the last.

Digitized by Google

No.	G.M.T.	Moon's Tabular R.A.	Moon's Tabular Dec.	Moon's Tabular Par.	Moon's Tabular S.-diam.	Var. in 1s R.A.	Var. in 1s Dec.	Newcomb's Corr. R.A.	Newcomb's Corr. Dec.	Star's Apparent R.A.	Star's Apparent Dec.	Sec. of Mean R.A.	Sec. of Mean Dec.
	h m s	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
1	7 23 24·1	1 2 17·42	+11 46 54·4	57 21·64	15 38·32	+0·528	+0·195	−0·75	− 4·2	1 0 18·94	+12 19 10·6	18·09	3·8*
2	9 12 14·2	5 59 31·16	+22 52 35·1	54 18·84	14 48·49	+0·535	−0·042	−0·77	+ 1·0	5 56 55·44	+23 16 5·0	53·20	5·5*
3	9 6 54·2	14 2 0·87	−16 22 53·7	57 29·76	15 40·55	+0·557	−0·161	−0·82	+ 3·3	14 4 23·58	−15 44 35·1	20·66	20·7*
4	5 42 53·0	21 17 2·82	−10 53 41·5	59 59·37	16 21·34	+0·581	+0·203	−0·87	− 4·6	21 18 53·50	−10 14 52·3	49·26	75·4*
5	6 2 48·8	16 12 21·88	−21 32 47·6	57 58·83	15 48·46	+0·608	−0·052	−0·92	+ 1·2	16 9 60·81	−21 0 26·7	58·04	21·9
6	11 11 8·0	22 8 47·00	− 5 55 5·4	59 19·05	16 10·29	+0·554	+0·216	−0·84	− 5·0	22 6 36·05	− 5 17 58·7	32·06	84·6*
7	8 26 10·5	22 55 35·15	− 1 14 43·7	59 15·40	16 9·35	+0·548	+0·222	−0·83	− 5·1	22 54 35·78	− 0 26 39·8	31·61	68·7*
8	7 47 34·7	21 34 11·60	− 9 8 28·3	60 11·47	16 24·62	+0·580	+0·211	−0·87	− 4·8	21 31 28·26	− 8 22 53·3	25·01	73·7*
9	7 1 29·5	22 27 4·97	− 4 5 20·2	59 46·26	16 17·75	+0·559	+0·222	−0·85	− 5·1	22 25 12·70	− 3 30 48·6	9·29	72·5
10	7 26 23·4	0 13 4·89	+ 6 30 37·8	58 38·85	15 58·56	+0·541	+0·208	−0·84	− 4·8	0 11 49·51	+ 7 12 46·2	45·50	18·4
11	9 3 49·4	0 16 35·71	+ 6 50 48·7	58 33·31	15 57·88	+0·541	+0·207	−0·84	− 4·8	0 14 32·53	+ 7 32 12·8	28·49	45·0*
12	12 6 3·3	12 46 21·59	− 9 29 54·6	55 5·95	15 1·34	+0·485	−0·174	−0·74	+ 3·8	12 48 14·38	− 8 53 58·7	13·00	52·4*
13	10 54 51·8	12 31 44·79	− 7 55 51·9	54 34·35	14 52·71	+0·474	−0·175	−0·73	+ 3·9	12 33 11·59	− 7 20 58·6	9·36	46·1*
14	13 47 2·3	15 58 55·91	−20 51 56·2	57 17·62	15 37·24	+0·585	−0·062	−0·89	+ 1·4	16 0 30·62	−20 32 56·8	29·19	55·8*
15	14 6 18·5	16 57 15·53	−21 47 24·8	58 14·63	15 52·77	+0·613	−0·012	−0·93	+ 0·3	16 59 10·25	−21 23 57·4	9·12	58·9*
16	7 58 30·6	13 1 19·30	−10 21 41·1	54 45·51	14 55·77	+0·487	−0·165	−0·74	+ 3·7	13 3 37·53	− 9 42 13·1	34·79	58·1*
17	12 29 4·0	13 58 12·86	−14 45 19·1	55 15·67	15 3·98	+0·512	−0·142	−0·79	+ 3·1	13 58 6·37	−14 24 26·1	3·71	14·7
18	5 45 12·4	4 23 16·49	+20 53 31·6	57 44·87	15 44·67	+0·600	+0·041	−0·90	− 0·9	4 21 1·57	+21 21 18·0	0·61	19·6*
19	14 54 53·0	18 10 14·27	−20 34 46·8	57 58·61	15 48·42	+0·603	+0·054	−0·94	− 1·3	18 8 15·00	−20 25 13·6	11·73	18·1*
20	9 27 6·2	13 58 7·50	−14 38 38·3	55 48·30	15 12·87	+0·523	−0·142	−0·79	+ 3·1	13 58 7·11	−14 24 30·6	3·71	14·7
21	16 38 3·8	19 54 38·68	−16 18 9·1	59 8·96	16 7·59	+0·597	+0·142	−0·91	− 3·3	19 51 18·84	−15 47 59·2	15·42	72·0*
22	7 1 34·9	20 10 39·57	−15 23 14·0	59 56·49	16 20·55	+0·609	+0·155	−0·91	− 3·5	20 14 26·81	−15 8 53·8	22·86	70·7*
23	7 46 11·3	12 34 59·52	− 7 47 22·2	54 22·42	14 49·47	+0·471	−0·167	−0·73	+ 3·8	12 33 11·65	− 7 20 61·1	9·36	46·1*
24	11·2	59·51	22·2	...	...	...	...	...	...	...	...	...	...
25	6 20 54·5	13 5 23·24	−10 9 4·5	54 18·00	14 48·26	+0·478	−0·157	−0·75	+ 3·6	13 3 36·99	− 9 42 10·8	34·79	58·1*
26	5 33 50·6	21 14 48·58	−10 45 14·3	60 57·28	16 37·13	+0·607	+0·195	−0·90	− 4·3	21 18 56·80	−10 14 36·1	52·49	60·3*
27	13 39 12·0	21 34 24·53	− 9 8 35·0	61 6·76	16 39·70	+0·604	+0·204	−0·89	− 4·5	21 31 32·49	− 8 22 32·7	28·21	57·8*
28	15 40 31·4	7 53 2·06	+16 18 5·7	54 50·84	14 57·22	+0·514	−0·115	−0·81	+ 2·9	7 54 49·15	+16 46 35·6	46·76	45·6*
29	5 52 17·2	15 57 30·64	−19 29 6·3	55 30·21	15 7·95	+0·548	−0·059	−0·87	+ 1·5	15 55 27·21	−19 7 18·0	24·61	15·2
30	6 27 37·9	17 46 54·80	−20 18 50·2	56 37·85	15 26·38	+0·574	+0·027	−0·91	− 0·6	17 45 12·63	−20 2 39·4	9·56	44·7
31	6 31 51·9	17 47 4·53	−20 18 43·2	56 37·95	15 26·42	+0·574	+0·029	−0·91	− 0·6	17 44 47·97	−19 44 26·0	44·91	31·3
32	7 18 34·9	17 48 51·84	−20 17 23·5	56 39·18	15 26·74	+0·574	+0·029	−0·91	− 0·7	17 46 50·44	−19 51 28·6	47·36	34·0
33	7 22 34·7	18 31 50·45	−19 22 19·2	57 6·61	15 34·22	+0·579	+0·064	−0·92	− 1·5	18 28 44·35	−18 38 23·5	41·51	32·5
34	6 54 50·9	19 26 10·28	−17 20 19·2	57 36·26	15 42·32	+0·574	+0·107	−0·92	− 2·5	19 24 9·73	−16 59 39·8	6·69	53·3
35	6 15 36·9	20 19 26·76	−14 23 29·3	58 5·84	15 50·39	+0·567	+0·144	−0·92	− 3·4	20 17 35·89	−13 46 12·8	32·72	30·7
36	6 47 41·0	20 20 39·40	−14 18 51·0	58 6·52	15 50·56	+0·566	+0·145	−0·92	− 3·5	20 19 7·77	−13 56 49·9	4·58	67·9
37	41·3	39·41	...	...	...	...	...	...	...	...	...	...	...
38	6 49 17·0	20 20 43·03	−14 18 37·1	58 6·55	15 50·56	+0·566	+0·145	−0·92	− 3·5	20 18 59·98	−13 45 37·9	56·80	55·9
39	7 10 50·4	20 21 31·85	−14 15 29·2	58 7·01	15 50·69	+0·566	+0·145	−0·92	− 3·5	20 19 45·77	−13 55 46·5	42·58	64·5
40	50·5	...	...	...	...	...	...	...	...	...	...	...	...
41	7 56 38·2	20 23 15·54	−14 8 47·9	58 7·97	15 50·96	+0·566	+0·147	−0·92	− 3·5	20 20 42·70	−13 55 31·8	39·52	49·8
42	6 32 8·9	22 7 29·71	− 6 0 53·9	59 4·89	16 6·47	+0·555	+0·197	−0·90	− 4·8	22 6 38·75	− 5 17 41·7	35·19	67·0*
43	9·0	...	...	...	...	...	...	...	...	...	...	...	...
44	7 7 17·5	22 8 47·75	− 5 53 58·7	59 5·55	16 6·65	+0·555	+0·197	−0·90	− 4·8	22 7 48·69	− 5 13 17·0	45·13	42·5
45	7 13 52·0	22 9 2·35	− 5 52 40·9	59 5·68	16 6·70	+0·555	+0·197	−0·90	− 4·8	22 7 31·40	− 5 8 12·0	27·84	37·5
46	7 44 23·4	22 10 10·14	− 5 46 39·4	59 6·25	16 6·85	+0·555	+0·198	−0·90	− 4·8	22 7 46·57	− 5 1 42·6	43·01	68·1*
47	14 9 37·9	13 15 49·06	−10 46 7·0	54 31·88	14 52·05	+0·486	−0·151	−0·76	+ 3·4	13 18 61·67	−10 32 56·9	58·64	42·1*
48	37·9	...	...	...	...	...	...	...	...	...	...	...	...
49	14 52 9·0	13 17 11·73	−10 52 30·9	54 32·45	14 52·20	+0·486	−0·150	−0·76	+ 3·4	13 18 61·67	−10 32 56·9	58·64	42·1*
50	8·7	11·72	...	...	...	...	...	...	...	...	...	...	...

An asterisk in the column "Seconds of Mean Dec." denotes that the R.A. and Dec. are from Newcomb's *Catalogue of* 1098 *Standard Clock and Zodiacal Stars.*

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Chron.	Cape Sid. Time.	Remarks.
								h m s	
51	1883 Feb. 14	B.A.C. 1242.....	6·6	D.D.	7 inch	F.	S	6 0 3·8	
52	Apr. 28	e^1 Sagittarii.....	5·5	R.D.	7 inch	F.	M	14 47 8·1	*Note.*
53	May 13	*h* Leonis.....	5·4	D.D.	7 inch	P.	S	11 59 59·5	
54	July 19	e^2 Sagittarii.....	5·0	D.B.	7 inch	F.	S	15 43 31·9	*Note.*
55	Sept. 7	ζ^1 Libræ	6·2	D.D.	7 inch	F.	S	19 9 11·2	
56	Nov. 13	29 Arietis.....	6·5	D.D.	7 inch	F.	S	23 11 1·1	
57	1884 Jan. 2	44 Aquarii	5·9	D.D.	7 inch	F.	M	3 27 34·9	Exact.
58	7	o Arietis.....	5·8	D.D.	7 inch	F.	M	2 49 34·2	Exact.
59	Mar. 8	B.A.C. 3122.....	7·0	D.D.	7 inch	F.	M	12 45 21·8	Very faint. Fair.
60	9	B.A.C. 3407.....	6·4	D.D.	7 inch	F.	M	10 22 20·4	Good.
61	9	π Leonis	5·0	D.D.	7 inch	F.	M	11 56 47·8	
62	15	μ Libræ.....	5·4	R.D.	7 inch	F.	M	12 33 7·5	Good. Took $0^s{\cdot}3\pm$ to attain full brilliancy.
63	24	κ Aquarii.....	5·5	R.D.	6 inch	F.	S	17 14 36·9	
64	29	σ Arietis.....	5·5	D.D.	6 inch	P.	M	7 18 8·2	*Note.*
65	May 1	29 Cancri.....	5·9	D.D.	7 inch	F.	M	8 16 16·9	Very faint; cloudy. Fair; cannot be 1^s out.
66	30	B.A.C. 3407.....	6·4	D.D.	7 inch	F.	M	10 13 57·6	Good. Star often lost in cloud.
67	June 5	μ Libræ	5·4	D.D.	7 inch	F.	M	12 33 34·6	Exact.
68	Aug. 6	ν Aquarii.....	4·6	D.B.	7 inch	F.	S	20 31 7·6	Star faint; could not follow right up to limb.
69	Sept. 11	*m* Tauri.....	5·1	R.D.	7 inch	F.	S	1 4 9·5	Very good.
70	Oct. 3	21 Piscium	6·1	D.D.	7 inch	F.	S	19 28 18·8	Perhaps $0^s{\cdot}5$ early; def. extr. bad and star faint.
71	4	53	10	R.	6 inch	G.	M	23 33 3·1	
72				R.	7 inch	F.	M	7·1	
73		55	9·5	R.	7 inch	F.	M	23 37 48·9	
74		56	10	R.	7 inch	F.	M	23 46 6·5	
75				R.	6 inch	G.	M	8·5	
76		67	9·5	R.	7 inch	F.	M	23 51 59·2	
77		83	10	D.	7 inch	F.	M	23 55 42·3	Very faint; not good.
78		66	10	R.	7 inch	F.	M	0 8 43·9	Very good.
79				R.	6 inch	G.	M	44·4	
80		77	9·4	R.	7 inch	F.	M	0 53 57·3	Uncertain; faint.
81	28	c^1 Capricorni.....	5·2	D.D.	7 inch	F.	S	21 56 31·8	Exact.
82	28	...	...	R.B.	7 inch	F.	S	22 37 47·8	Fair. Definition good.
83	Nov. 29	54 Ceti.....	5·8	D.D.	6 inch	F.	S	4 4 35·5	Good. Not quite instant.; light diminished $0^s{\cdot}2$ earlier.
84	29	...	...	D.D.	7 inch	M.	M	35·8	Good.
85	Dec. 1	B.A.C. 1206.....	6·0	D.D.	7 inch	G.	M	4 16 13·5	Fair.
86	2	*i* Tauri.....	5·1	D.B.	6 inch	F.	S	1 4 34·2	*Note.*
87	2	...	...	R.D.	6 inch	F.	S	2 10 28·9	*Note.*
88	2	...	...	R.D.	7 inch	M.	M	11 7·3	Good.
89	1885 Jan. 4	48 Leonis.....	5·2	R.D.	6 inch	F.	S	7 5 51·3	Very fair.
90	4	...	...	R.D.	7 inch	M.	M	51·0	Good.
91	Mar. 4	κ Virginis	4·3	R.D.	7 inch	F.	S	14 22 44·2	Very good.
92	Apr. 2	γ Libræ.....	4·0	D.B.	7 inch	F.	S	16 2 18·8	Pretty good.
93	2	...	...	R.D.	7 inch	F.	S	17 16 38·6	Excellent; exact.
94	4	B.A.C. 5771.....	6·2	R.D.	7 inch	F.	S	11 20 36·0	Good.
95	18	*m* Tauri.....	5·1	D.D.	7 inch	F.	S	10 8 6·2	Good. Moon very low; star faint at times.
96	May. 5	β Capricorni.....	3·4	D.B.	7 inch	F.	S	19 3 47·2	Good. Followed right up to moon's limb.
97	5	B.A.C. 6992.....	6·7	R.D.	7 inch	F.	S	19 53 42·9	Very good; exact.
98	5	β Capricorni.....	3·4	R.D.	7 inch	F.	S	20 1 30·2	Very good; exact. Faint speck of light seen $0^s{\cdot}1$ earlier.
99	22	τ Leonis	5·0	D.D.	7 inch	F.	S	9 3 11·2	Very good; daylight.
100	24	θ Virginis.....	4·4	D.D.	7 inch	F.	S	10 16 30·7	Very faint; cloudy. Cannot be $0^s{\cdot}5$ in error.

52. Definition good. A very conspicuous mountain at Moon's edge, just below point of disappearance.
54. Star not very bright. Moon's limb seemed broken at the point of contact, yet star moved steadily up to, and was last seen touching an illuminated part.
64. Def. extremely bad; Moon very low. Star scarcely brighter than dark limb; may be $0^s{\cdot}5$ out
71 to 80. Observed during Lunar Eclipse; the Nos. are those of Prof. Dollen's list (*Ast. Nach.* 2615); the star places are from L. Struve's *Bestimmung des Mondhalbmessers aus den während der totalen Mondfinsterniss* 1884 *October* 4 *beobachteten Sternbedeckungen.*
86. Fair. Bad definition. Star became invisible to M. at 7 inch $6^s{\cdot}3$ earlier.
87. Very faint; star a little distance from slightly broken edge.

Digitized by Google

No.	G.M.T.	Moon's Tabular R.A.	Moon's Tabular Dec.	Moon's Tabular Par.	Moon's Tabular S.-diam.	Var. in 1s R.A.	Var. in 1s Dec.	Newcomb's Corr. R.A.	Newcomb's Corr. Dec.	Star's Apparent R.A.	Star's Apparent Dec.	Sec. of Mean R.A.	Sec. of Mean Dec.
	h m s	h m s	° ′ ″	′ ″	′ ″	′	″	s	″	h m s	° ′ ″	s	″
51	7 8 19·0	3 55 14·62	+18 57 54·7	58 13·22	15 52·40	+0·597	+0·070	−0·94	− 1·9	3 54 19·60	+19 52 12·7	18·02	13·8*
52	11 6 55·7	19 31 12·96	−16 44 21·2	56 52·13	15 30·29	+0·557	+0·100	−0·91	− 2·3	19 34 3·39	−16 33 27·9	1·19	37·6*
53	7 21 15·9	9 26 39·69	+ 9 34 17·3	55 29·79	15 7·84	+0·500	−0·154	−0·80	+ 3·9	9 25 42·99	+10 13 36·8	41·28	51·6*
54	6 40 45·6	19 32 6·04	−16 53 34·0	57 29·46	15 40·46	+0·575	+0·151	−0·91	− 2·5	19 35 53·60	−16 23 32·3	49·58	49·1*
55	6 49 15·8	15 23 29·90	−16 48 57·2	54 16·95	14 47·97	+0·509	−0·083	−0·83	+ 2·1	15 21 42·12	−16 18 30·5	39·54	27·3*
56	6 27 0·3	2 23 0·42	+13 40 23·6	61 21·50	16 43·71	+0·635	+0·150	−0·98	− 3·6	2 26 34·36	+14 31 15·1	29·69	57·0*
57	7 26 16·6	22 13 11·29	− 6 32 29·6	57 26·95	15 39·79	+0·532	+0·172	−0·89	− 4·3	22 11 2·77	− 5 57 53·4	3·09	57·3*
58	6 28 42·5	2 37 27·06	+14 14 0·6	59 37·90	16 15·49	+0·601	+0·135	−0·93	− 4·7	2 38 10·77	+14 49 11·4	9·44	11·4*
59	12 23 2·1	9 5 32·32	+11 37 37·5	57 6·94	15 34·33	+0·544	−0·141	−0·92	+ 3·8	9 3 30·19	+12 1 53·4	28·05	69·6
60	9 56 28·3	9 51 38·59	+ 8 23 10·6	56 40·90	15 27·21	+0·526	−0·158	−0·86	+ 4·2	9 51 61·11	+ 8 51 44·7	58·87	61·7*
61	11 30 40·2	9 54 56·51	+ 8 8 15·7	56 38·99	15 26·70	+0·524	−0·159	−0·86	+ 4·2	9 54 7·22	+ 8 35 43·8	4·98	60·8*
62	11 43 18·5	14 42 19·91	−13 56 31·0	54 15·21	14 47·50	+0·499	−0·108	−0·82	+ 2·7	14 42 59·73	−13 39 58·9	57·57	54·0*
63	15 48 38·6	22 29 39·14	− 5 22 48·3	58 45·47	16 1·19	+0·557	+0·180	−0·90	− 4·3	22 31 44·99	− 4 49 31·2	44·97	33·7*
64	5 34 8·1	2 47 37·79	+14 11 59·7	60 32·65	16 30·42	+0·623	+0·131	−1·03	− 3·4	2 45 5·58	+14 36 6·7	5·34	11·8*
65	4 22 22·4	8 22 13·97	+14 7 43·6	58 1·42	15 49·18	+0·569	−0·121	−0·96	+ 3·2	8 22 10·21	+14 35 24·7	9·00	37·9*
66	4 25 42·4	9 52 2·22	+ 8 28 1·1	57 20·83	15 38·10	+0·534	−0·159	−0·89	+ 4·3	9 51 60·15	+ 8 51 48·1	58·87	61·7*
67	6 21 21·1	14 40 51·18	−13 47 35·6	54 4·25	14 44·50	+0·496	−0·111	−0·83	+ 2·9	14 42 60·58	−13 39 60·9	57·57	54·0*
68	10 13 49·4	21 1 55·45	−12 16 27·3	56 6·98	15 17·97	+0·529	+0·130	−0·88	− 3·3	21 3 20·11	−11 50 3·7	16·49	26·3*
69	12 24 33·9	4 58 14·05	+18 4 31·9	59 17·49	16 9·91	+0·620	+0·038	−1·09	− 1·0	5 0 38·60	+18 29 14·6	35·68	17·1*
70	5 23 8·3	23 40 0·00	− 0 18 31·2	58 36·07	15 58·63	+0·551	+0·183	−0·91	− 4·5	23 43 34·85	+ 0 25 81·2	31·09	56·0*
71	9 23 16·6	0 42 43·78	+ 4 49 54·4	59 21·91	16 11·12	+0·570	+0·182	−0·91	− 4·5	0 42 37·21	+ 5 26 62·9	33·38	40·1
72	20·6	43·93	55·1	...	...	...	...	...	...	...	...	...	...
73	9 28 1·6	0 42 54·61	+ 4 50 46·2	59 22·01	16 11·15	+0·570	+0·182	−0·95	− 4·5	0 42 51·94	+ 5 19 77·4	48·11	54·6
74	9 36 17·9	0 43 13·46	+ 4 52 16·3	59 22·20	16 11·20	+0·570	+0·182	−0·95	− 4·5	0 42 57·14	+ 5 26 50·1	53·31	27·4
75	19·9	13·54	16·7	...	...	...	...	...	...	...	...	...	...
76	9 42 9·6	0 43 26·83	+ 4 53 20·2	59 22·34	16 11·24	+0·570	+0·182	−0·95	− 4·5	0 44 7·02	+ 5 14 27·5	3·19	4·8
77	9 45 52·1	0 43 35·29	+ 4 54 0·5	59 22·42	16 11·26	+0·570	+0·182	−0·95	− 4·5	0 45 18·62	+ 5 36 28·7	14·79	6·1
78	9 58 51·5	0 44 4·91	+ 4 56 22·0	59 22·73	16 11·35	+0·570	+0·181	−0·95	− 4·5	0 44 5·36	+ 5 18 70·7	1·53	48·0
79	52·0	4·93	22·1	...	...	...	...	...	...	...	...	...	...
80	10 43 57·5	0 45 47·85	+ 5 4 32·6	59 23·76	16 11·63	+0·571	+0·181	−0·95	− 4·5	0 44 56·93	+ 5 28 49·2	53·10	26·6
81	6 12 39·3	21 38 17·99	− 9 50 13·8	56 12·82	15 19·56	+0·518	+0·142	−0·88	− 3·5	21 38 52·22	− 9 36 29·8	49·11	52·7*
82	6 53 48·6	21 39 43·28	− 9 44 20·7	56 14·21	15 19·94	+0·518	+0·143	−0·88	− 3·5	21 38 52·22	− 9 36 29·8	49·11	52·7*
83	10 13 53·7	1 46 32·43	+ 9 32 14·3	59 53·35	16 19·69	+0·589	+0·166	−0·99	− 4·2	1 44 46·82	+10 28 25·0	42·67	6·4*
84	54·0	32·45	...	...	...	...	...	...	...	...	...	...	...
85	10 17 37·9	3 45 56·04	+16 9 56·1	61 13·94	16 41·66	+0·650	+0·101	−1·06	− 2·6	3 46 36·96	+16 58 58·5	32·18	51·6*
86	7 2 34·1	4 40 42·52	+17 49 2·5	61 27·47	16 45·36	+0·667	+0·057	−1·09	− 1·5	4 44 40·20	+18 38 28·0	35·32	28·2*
87	8 8 18·0	4 43 38·07	+17 52 43·7	61 27·76	16 45·42	+0·668	+0·055	−1·09	− 1·5	4 44 40·20	+18 38 28·0	35·32	28·2*
88	8 8 56·3	4 43 39·77	+17 52 45·8	61 27·76	16 45·42	+0·668	+0·055	−1·09	− 1·5	4 44 40·20	+18 38 28·0	35·32	28·2*
89	10 53 7·0	10 27 11·35	+ 6 47 9·1	58 47·43	16 1·72	+0·559	−0·172	−0·95	+ 4·5	10 28 49·03	+ 7 32 33·6	48·03	43·3*
90	6·6	11·34	...	...	...	...	...	...	...	...	...	...	...
91	14 16 49·7	14 7 53·59	−10 15 29·0	56 4·31	15 17·25	+0·519	−0·139	−0·89	+ 3·2	14 6 47·36	− 9 44 21·3	45·72	16·8*
92	14 2 6·7	15 28 38·46	−14 48 31·6	55 13·70	15 3·44	+0·523	−0·096	−0·90	+ 2·1	15 29 7·69	−14 24 19·8	5·66	18·6*
93	15 16 14·3	15 31 13·52	−14 55 33·0	55 12·14	15 3·03	+0·523	−0·094	−0·90	+ 2·1	15 29 7·69	−14 24 19·8	5·66	18·6*
94	9 13 18·2	16 58 58·76	−17 42 6·1	54 29·66	14 51·44	+0·522	−0·038	−0·90	+ 0·7	17 1 35·82	−17 27 15·8	34·13	20·3
95	7 5 57·6	5 2 59·26	+17 48 24·3	59 48·16	16 18·27	+0·632	+0·043	−1·07	− 0·6	5 0 39·34	+18 29 12·4	39·22	22·2*
96	14 53 20·4	20 12 50·53	−15 17 2·0	54 21·88	14 49·32	+0·506	+0·088	−0·89	− 2·1	20 14 34·37	−15 8 26·3	32·98	37·4*
97	15 43 8·0	20 14 31·24	−15 12 38·6	54 22·45	14 49·47	+0·506	+0·089	−0·89	− 2·1	20 14 20·24	−15 8 36·8	18·85	47·8*
98	15 50 54·0	20 14 46·95	−15 11 57·3	54 22·53	14 49·49	+0·506	+0·089	−0·89	− 2·1	20 14 34·37	−15 8 26·4	32·98	37·4*
99	3 47 32·4	11 19 24·08	+ 3 4 4·3	57 31·11	15 40·91	+0·529	−0·173	−0·96	+ 4·4	11 22 2·91	+ 3 29 10·2	1·38	22·0*
100	4 52 48·1	13 1 4·31	− 5 16 1·6	56 17·04	15 20·72	+0·511	−0·162	−0·92	+ 4·0	13 3 61·88	− 4 55 39·0	59·75	29·3*

63. Evidently 1m. late.
88. Evidently some error in observation.
An asterisk in the column "Seconds of Mean Dec." denotes that the R.A. and Dec. are from Newcomb's *Catalogue of* 109 *Standard Clock and Zodiacal Stars.*

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Chron.	Cape Sid. Time.	Remarks.
								h m s	
101	1885 June 23	γ Librae.....	4·0	D.D.	7 inch	F.	M	18 54 5·8	Exact.
102	25	B.A.C. 5771.....	6·2	D.D.	7 inch	F.	S	13 8 52·8	Very good; definition very poor.
103	25	B.A.C. 5839.....	6·0	D.D.	7 inch	F.	S	21 26 18·1	Good; became very faint on nearing the Moon.
104	28	e^1 Sagittarii.....	5·5	R.D.	7 inch	F.	M	15 40 39·9	*Note.*
105	July 1	θ Aquarii.....	4·3	R.D.	7 inch	F.	M	0 35 34·6	Good.
106	26	β Capricorni.....	3·4	D.B.	7 inch	F.	M	19 52 49·7	*Note.*
107	26	...	...	R.B.	7 inch	F.	M	21 3 36·8	Very good. Bright speck right on moon's limb.
108	1886 Jan. 14	38 Arietis.....	5·2	D.D.	7 inch	G.	S	6 14 53·1	Good; instantaneous.
109	Feb. 9	B.A.C. 481.....	6·9	D.D.	7 inch	F.	M	6 19·58·8	*Note.*
110	12	Piazzi III. 261.....	7·3	D.D.	7 inch	F.	S	5 10 29·9	Very good.
111	13	*m* Tauri.....	5·1	D.D.	7 inch	F.	S	4 49 22·9	Very good.
112	14	71 Orionis.....	5·1	D.D.	7 inch	F.	S	8 34 57·2	Very good.
113	Mar. 20	B.A.C. 4277.....	7·7	R.D.	7 inch	F.	S	9 13 27·9	*Note.*
114	May 14	46 Virginis.....	6·1	D.D.	7 inch	F.	S	14 45 31·7	Good.
115	16	ξ^2 Librae.....	5·8	D.D.	7 inch	F.	S	18 45 23·2	Good.
116	21	ρ^1 Sagittarii.....	3·9	D.B.	7 inch	F.	S	17 35 19·7	*Note.*
117	21	...	...	R.D.	7 inch	F.	S	18 57 31·5	Very good.
118	24	λ Capricorni.....	5·4	R.D.	7 inch	G.	M	17 7 41·3	Not particularly good; eye not on spot.
119	June 6	o^1 Cancri.....	5·2	D.D.	7 inch	F.	S	10 56 47·0	Exact.
120	10	γ Virginis (N.*)...	3·6	D.D.	7 inch	F.	S	12 55 48·3	Very good.
121	10	γ Virginis (S.*)....	3·6	D.D.	7 inch	F.	S	12 55 59·6	Very good.
122	10	γ Virginis (N.*)...	3·6	R.B.	7 inch	F.	S	14 17 49·6	Good; high power used; looking at spot.
123	10	γ Virginis (S.*)....	3·6	R.B.	7 inch	F.	S	14 18 0·4	
124	10	B.A.C. 4277.....	7·7	D.D.	7 inch	F.	S	14 15 39·4	Good.
125	15	B.A.C. 5771.....	6·2	D.D.	7 inch	F.	S	13 33 15·0	Very good.
126	July 5	ρ Leonis.....	4·0	R.B.	7 inch	F.	S	12 53 59·1	Limb boiling excessively; caught in midst of boiling.
127	8	65 Virginis.....	6·1	D.D.	7 inch	F.	S	16 8 4·7	Exact.
128	8	66 Virginis.....	5·8	D.D.	7 inch	F.	S	17 6 46·0	Exact.
129	Aug. 10	B.A.C. 6294.....	8·1	D.D.	7 inch	F.	S	21 33 52·8	Very good.
130	24	71 Orionis.....	5·1	R.D.	7 inch	F.	S	4 4 46·5	Very good.
131	Sept. 5	B.A.C. 5839.....	6·0	D.D.	7 inch	F.	M	20 28 41·2	Exact.
132	Oct. 7	18 Aquarii.....	5·4	D.D.	7 inch	F.	S	1 42 14·4	Good.
133	Nov. 1	ρ^1 Sagittarii.....	3·9	D.D.	7 inch	F.	S	23 41 47·3	Exact.
134	12	δ^2 Tauri.....	4·7	R.D.	7 inch	F.	S	6 27 25·7	Good; def. poor. Seemed gradual; looking at spot.
135	14	68 Orionis.....	5·6	R.D.	7 inch	F.	S	2 57 50·5	Good.
136	Dec. 6	μ Piscium.....	5·2	D.D.	7 inch	F.	S	5 34 45·0	Exact.
137	11	χ^2 Orionis.....	5·9	R.D.	7 inch	F.	S	6 37 12·5	Very doubtful. Def. very bad; star very faint.
138	15	ν Leonis.....	5·3	R.D.	7 inch	F.	S	10 32 31·2	Very uncertain; extremely faint.
139	1887 Jan. 11	7 Leonis.....	6·8	R.D.	7 inch	F.	M	10 36 9·8	Very good.
140	19	B.A.C. 5695.....	6·2	R.D.	6 inch	F.	S	10 53 7·7	Very good.
141	31	B.A.C. 741.....	7·6	D.D.	7 inch	F.	S	5 44 19·5	Very good.
142	Feb. 1	B.A.C. 987.....	6·3	D.D.	7 inch	F.	S	4 8 1·6	Very good.
143	4	χ^2 Orionis.....	5·9	D.D.	7 inch	F.	S	5 13 1·7	Very good.
144	10	h Virginis.....	5·2	R.D.	7 inch	F.	M	8 45 53·2	Very good.
145	18	B.A.C. 6658.....	7·0	R.D.	7 inch	F.	S	14 46 6·0	Very good.
146	Mar. 14	ϕ Ophiuchi.....	4·4	D.B.	7 inch	F.	S	17 2 58·5	Not very good. Drifting vapour; star faint.
147	14	...	...	R.D.	7 inch	F.	S	17 49 45·5	Good. Daylight.
148	31	68 Orionis.....	5·6	D.D.	7 inch	F.	S	9 43 55·2	
149	Apr. 4	a Leonis.....	1·4	D.D.	7 inch	F.	S	13 8 54·0	Exact.
150	4	...	...	R.B.	7 inch	F.	S	14 9 51·1	Exact; looking at spot. High power.

104. Fair; bad definition; moon very unsteady and star faint. Near illuminated part.
106. Good. Star followed till within apparent edge. Star's light was white compared to the Moon's and was seen apparently on the Moon.
109. Good; definition poor; Moon's dark edge plainly visible. Star became gradually fainter from about $0^s{\cdot}5$ before disappearance.
113. Faint; definition very bad. Looking at exact place; observation good.
116. Good. High power used and star followed easily up to limb. Disappeared at edge of a hollow.

Digitized by Google

No.	G.M.T.	Moon's Tabular R.A.	Moon's Tabular Dec.	Moon's Tabular Par.	Moon's Tabular S.-diam.	Var. in 1^s R.A.	Var. in 1^s Dec.	Newcomb's Corr. R.A.	Newcomb's Corr. Dec.	Star's Apparent R.A.	Star's Apparent Dec.	Sec. of Mean R.A.	Sec. of Mean Dec.
	h m s	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
101	11 31 1·1	15 30 37·51	−14 51 16·6	54 47·17	14 56·21	+0·514	−0·097	−0·92	+ 2·1	15 29 8·45	−14 24 19·7	5·66	18·6*
102	5 38 52·8	16 57 55·41	−17 49 11·0	54 14·53	14 47·32	+0·521	−0·042	−0·91	+ 0·8	17 1 37·24	−17 27 14·6	34·13	20·3
103	13 54 56·6	17 15 9·98	−18 7 18·2	54 10·15	14 46·11	+0·522	−0·031	−0·91	+ 0·6	17 13 14·83	−17 37 59·1	11·71	65·7
104	7 58 27·3	19 32 15·95	−17 5 27·8	53 58·09	14 42·84	+0·512	+0·061	−0·89	− 1·5	19 34 11·08	−16 33 5·9	8·07	21·7*
105	16 40 6·6	22 13 23·92	− 8 35 59·4	54 44·53	14 55·49	+0·490	+0·142	−0·89	− 3·3	22 10 48·25	− 8 21 2·6	45·90	20·0*
106	10 19 50·2	20 13 48·68	−15 38 15·8	54 4·90	14 44·69	+0·507	+0·084	−0·90	− 2·1	20 14 36·22	−15 8 18·4	32·98	37·4*
107	11 30 25·8	20 16 11·82	−15 32 17·2	54 5·32	14 44·81	+0·507	+0·086	−0·90	− 2·1	20 14 36·22	−15 8 18·4	32·98	37·4*
108	9 23 55·5	2 40 22·09	+11 16 35·5	57 31·71	15 41·07	+0·547	+0·141	−0·99	− 3·6	2 38 45·38	+11 57 50·2	44·93	55·8*
109	7 46 46·7	1 32 53·83	+ 6 16 7·8	55 46·18	15 12·30	+0·502	+0·155	−0·93	− 4·0	1 30 4·55	+ 7 3 35·2	4·83	41·7
110	6 25 41·6	4 4 25·45	+15 36 3·8	58 0·98	15 49·05	+0·577	+0·097	−0·91	− 4·0	4 4 33·81	+16 20 46·4	33·28	54·5
111	6 0 42·0	5 0 18·06	+17 27 15·7	58 53·10	16 3·27	+0·607	+0·059	−0·95	− 3·9	5 0 43·60	+18 29 18·4	42·77	27·4*
112	9 41 43·5	6 9 9·37	+18 22 18·1	59 51·94	16 19·31	+0·635	+0·005	−0·98	− 3·7	6 8 9·50	+19 11 27·6	8·41	38·1*
113	8 6 27·1	12 36 4·96	− 1 40 5·2	59 54·73	16 20·08	+0·576	−0·190	−1·02	− 4·6	12 37 48·29	− 0 56 67·3	46·65	58·0
114	10 1 21·6	12 55 18·32	− 3 9 33·9	58 38·11	15 59·19	+0·551	−0·183	−1·02	+ 4·6	12 54 45·46	− 2 45 27·3	43·72	19·2*
115	13 52 42·0	14 50 4·15	−11 46 14·6	57 41·15	15 43·65	+0·557	−0·142	−1·00	+ 3·5	14 48 13·70	−11 25 60·2	11·53	57·0*
116	12 23 10·4	19 12 48·81	−18 13 1·8	54 56·08	14 58·65	+0·534	+0·038	−0·96	− 1·0	19 15 5·52	−18 3 28·4	3·67	39·6*
117	13 45 8·7	19 15 43·71	−18 9 49·7	54 54·62	14 58·26	+0·533	+0·040	−0·96	− 1·0	19 15 5·52	+18 3 28·4	3·67	39·6*
118	11 43 48·8	21 38 34·82	−12 17 42·6	54 14·90	14 47·63	+0·490	+0·121	−0·89	− 3·0	21 40 24·93	−11 53 18·6	23·90	28·9*
119	4 42 48·4	8 51 34·48	+15 0 38·3	59 46·66	16 17·87	+0·610	−0·119	−1·14	+ 3·2	8 50 53·59	+15 45 24·9	53·45	33·4*
120	6 25 46·6	12 35 12·72	− 1 15 31·3	58 27·19	15 56·20	+0·544	−0·184	−1·04	+ 4·7	12 35 54·40	− 0 49 31·5	52·98	24·9*
121	6 25 57·8	12 35 13·13	− 1 15 33·4	58 27·18	15 56·20	+0·544	−0·184	−1·04	+ 4·7	12 35 54·56	− 0 49 36·0	53·14	29·4*
122	7 47 34·4	12 38 10·74	− 1 30 34·8	58 25·66	15 55·78	+0·544	−0·184	−1·04	+ 4·7	12 35 54·40	− 0 49 31·5	52·98	24·9*
123	7 47 45·2	12 38 11·13	− 1 30 36·8	58 25·65	15 55·78	+0·544	−0·184	−1·04	+ 4·7	12 35 54·56	− 0 49 36·0	53·14	29·4*
124	7 45 24·6	12 38 6·03	− 1 30 10·9	58 25·70	15 55·78	+0·544	−0·184	−1·04	+ 4·7	12 37 48·09	− 0 56 64·6	46·65	58·0
125	6 43 27·6	16 58 14·42	−17 39 39·2	56 1·03	15 16·34	+0·554	−0·060	−1·00	+ 1·3	17 1 40·24	−17 27 19·7	37·60	25·3
126	4 45 39·9	10 29 55·53	+ 9 9 30·8	60 9·48	16 24·09	+0·592	−0·173	−1·10	+ 4·4	10 26 48·91	+ 9 53 28·0	48·53	34·3*
127	7 47 26·0	13 18 48·12	− 4 39 34·2	58 15·88	15 53·13	+0·543	−0·178	−1·04	+ 4·6	13 17 25·87	− 4 19 43·5	24·45	39·6*
128	8 45 57·7	13 20 55·28	− 4 49 58·0	58 14·23	15 52·66	+0·543	−0·177	−1·04	+ 4·6	13 18 38·64	− 4 34 8·7	37·21	4·8*
129	11 2 35·7	18 26 12·22	−18 42 9·5	54 55·31	14 58·44	+0·537	+0·001	−1·03	− 0·2	18 24 48·42	−18 28 36·5	45·62	48·1*
130	16 37 22·6	6 7 16·78	+18 37 0·4	58 59·20	16 4·94	+0·617	+0·014	−1·10	− 0·6	6 8 9·56	+19 11 31·0	8·41	38·1*
131	8 15 21·2	17 14 50·17	−17 50 44·7	56 1·44	15 16·47	+0·550	−0·052	−1·03	+ 1·1	17 13 17·28	−17 38 1·9	15·16	9·3
132	11 22 14·0	21 19 51·34	−13 49 56·8	54 9·94	14 46·07	+0·496	+0·109	−0·93	− 2·8	21 17 60·39	−13 21 42·1	57·77	60·6*
133	7 43 49·0	19 17 5·15	−18 32 10·2	55 30·57	15 8·05	+0·544	+0·037	−1·01	− 1·0	19 15 5·37	−18 3 27·2	3·67	39·6*
134	13 45 5·9	4 20 23·33	+16 23 37·6	56 58·50	15 32·03	+0·565	+0·094	−1·03	− 2·7	4 17 35·23	+17 10 46·0	31·47	44·0*
135	10 8 13·2	6 3 49·23	+18 59 4·6	57 50·33	15 46·15	+0·597	+0·019	−1·12	− 0·8	6 5 19·82	+19 48 44·8	16·26	52·9*
136	11 18 12·0	1 26 10·14	+ 4 52 41·11	55 10·38	15 2·55	+0·487	+0·163	−0·90	− 4·4	1 24 15·84	+ 5 33 36·1	12·67	21·4*
137	12 0 49·7	5 50 9·02	+18 56 28·6	58 20·72	15 54·44	+0·608	+0·033	−1·11	− 1·2	5 48 15·90	+19 43 27·3	11·73	34·8*
138	15 39 46·2	9 53 38·45	+12 25 27·1	59 23·63	16 11·58	+0·588	−0·152	−1·14	+ 3·9	9 52 8·46	+12 58 55·7	5·41	77·0*
139	13 57 14·6	9 31 29·13	+13 55 56·1	60 17·64	16 26·30	+0·615	−0·139	−1·15	+ 3·5	9 29 43·02	+14 52 50·6	42·36	59·7*
140	13 42 42·5	16 47 2·30	−17 17 20·9	56 46·98	15 28·88	+0·563	−0·080	−1·08	+ 2·4	16 49 29·20	−16 37 22·2	30·48	30·9
141	7 47 33·9	2 20 19·91	+ 8 49 51·0	54 59·61	14 59·60	+0·490	+0·149	−0·92	− 4·2	2 18 27·78	+ 9 12 0·9	28·05	8·8
142	6 7 35·9	3 5 0·71	+12 0 8·3	55 34·75	15 9·18	+0·511	+0·134	−0·95	− 3·9	3 5 9·55	+12 36 59·2	9·55	67·0
143	7 0 37·6	5 46 53·56	+18 46 50·1	58 13·42	15 52·45	+0·601	+0·038	−1·10	− 1·5	5 48 16·04	+19 43 27·2	15·28	35·8*
144	10 9 18·8	11 52 45·82	+ 3 34 45·0	60 48·21	16 34·67	+0·591	−0·201	−1·10	+ 5·3	11 54 10·49	+ 4 16 57·4	9·65	64·1*
145	15 37 5·3	19 19 15·45	−18 48 20·4	55 14·85	15 3·75	+0·543	+0·034	−1·04	− 0·9	19 21 29·59	−18 35 7·6	30·82	11·6*
146	16 19 13·6	16 24 53·98	−16 24 29·7	58 4·31	15 49·97	+0·581	−0·100	−1·11	+ 2·7	16 24 40·81	−16 21 52·0	40·31	55·9*
147	17 5 53·0	16 26 42·31	−16 29 6·3	58 2·48	15 49·47	+0·580	−0·098	−1·11	+ 2·7	16 24 40·81	−16 21 52·0	40·31	55·9*
148	7 54 31·9	6 6 58·21	+19 11 5·3	56 55·69	15 31·26	+0·575	+0·021	−1·10	− 0·8	6 5 19·74	+19 48 44·1	19·82	52·4*
149	11 3 13·5	10 4 3·98	+12 2 14·7	60 19·80	16 26·89	+0·604	−0·161	−1·14	+ 4·1	10 2 22·21	+12 30 59·6	21·23	68·8*
150	12 4 0·6	10 6 30·92	+11 52 25·4	60 21·51	16 27·30	+0·604	−0·162	−1·14	+ 4·1	10 2 22·21	+12 30 59·6	21·23	68·8*

137, 157. Evidently 1 min. late.

An asterisk in the column "Seconds of Mean Dec." denotes that the R.A. and Dec. are from Newcomb's *Catalogue of* 1098 *Standard Clock and Zodiacal Stars.*

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Chron.	Cape Sid. Time.	Remarks.
								h m s	
151	1887 Apr. 6	*b* Virginis.....	5·2	D.D.	7 inch	F.	S	9 51 22·0	Exact.
152	9	18 Libræ.....	6·2	R.D.	7 inch	F.	S	13 33 52·9	Very good; looking exactly at spot.
153	15	B.A.C. 7097.....	6·2	R.D.	6 inch	F.	S	14 13 55·1	Good.
154	15	B.A.C. 7145.....	6·0	R.D.	6 inch	F.	S	16 57 10·9	
155	May 1	ψ Leonis	5·7	D.D.	7 inch	F.	S	11 39 31·1	Exact.
156	June 3	18 Libræ.....	6·2	D.D.	7 inch	F.	S	11 33 45·8	Exact.
157	6	B.A.C. 6060.....	6·5	R.D.	7 inch	F.	S	13 43 35·0	Fair. Extremely faint when first seen; foggy.
158	9	B.A.C. 7263.....	6·0	R.D.	7 inch	F.	S	22 49 48·5	Exact.
159	13	4 Ceti.....	6·4	R.D.	7 inch	F.	S	21 32 4·6	Exact.
160	13	5 Ceti.....	6·3	R.D.	7 inch	F.	S	22 5 20·9	Exact.
161	16	B.A.C. 741.....	7·6	R.D.	6 inch	F.	S	22 6 29·6	
162	July 29	ϕ Ophiuchi.....	4·4	D.D.	7 inch	F.	S	22 12 23·7	Exact.
163	Aug. 1	B.A.C. 6536.....	5·5	D.D.	7 inch	F.	S	14 51 16·4	Exact.
164	1	*d* Sagittarii.....	4·9	D.D.	7 inch	F.	S	20 58 10·2	Exact.
165	5	64 Aquarii.....	6·9	R.D.	7 inch	F.	S	18 13 56·7	Good; faint.
166	14	χ^4 Orionis	4·8	R.D.	6 inch	F.	S	2 40 2·9	Very good.
167	Sept. 3	27 Piscium.....	5·0	R.D.	7 inch	F.	S	20 28 12·9	Exact.
168	3	29 Piscium.....	5·1	R.D.	7 inch	F.	S	23 18 23·4	Exact.
169	13	θ Cancri.....	5·8	R.D.	6 inch	F.	S	3 48 56·5	Very good.
170	Nov. 7	δ Cancri.....	4·3	R.D.	7 inch	F.	S	5 7 13·2	Very good.
171	21	42 Capricorni	5·3	D.D.	7 inch	G.	S	23 40 10·4	Very good.
172	22	σ Aquarii...	4·8	D.D.	7 in. Heliom.	G.	S	23 40 21·7	Very good.
173	22	58 Aquarii	6·8	D.D.	7 in. Heliom.	G.	S	0 5 8·5	Very good.
174	24	4 Ceti.....	6·4	D.D.	7 inch	F.	M	2 57 48·0	Exact.
175	24	5 Ceti.....	6·3	D.D.	7 inch	F.	M	3 19 59·9	Good; did not seem quite instantaneous.
176	24	...	...	D.D.	7 in. Heliom.	G.	S	20 0·2	Very good.
177	24	B.A.C. 5	7·4	D.D.	7 in. Heliom.	G.	S	3 54 12·4	Fair.
178	27	B.A.C. 741	7·6	D.D.	7 in. Heliom.	G.	S	4 10 35·9	Good.
179	Dec. 17	ρ Capricorni.....	5·0	D.D.	} Probably	W.M.	S	2 0 42·7	
180	17	Bradley 2627.....	7·3	D.D.	} 7 inch	W.M.	S	2 4 23·0	
181	1888 Jan. 15	μ Capricorni	5·2	D.D.	7 inch	F.	M	3 32 25·0	Exact.
182	27	85 Geminorum.....	5·3	D.D.	7 inch	F.	S	10 51 51·1	Good. Moon nearly illuminated at spot.
183	28	127	9·5	D.	7 inch	F.	M	8 14 36·8	
184	28	...	...	D.	5 inch	M.	M	35·6	Gradual. [Observed time decreased 1^m].
185	28	121	9·5	D.	5 inch	M.	M	8 15 55·6	
186	28	...	...	D.	7 inch	F.	M	16 1·2	Uncertain.
187	28	76	9·3	R.	7 inch	F.	M	8 24 40·9	
188	28	146	9·5	D.	7 in. Heliom.	G.	M	8 28 28·2	
189	28	...	...	D.	7 inch	F.	M	26·4	Good.
190	28	...	...	D.	5 inch	M.	M	26·7	
191	28	143	11	D.	7 in. Heliom.	G.	M	8 29 5·3	
192	28	...	...	D.	7 inch	F.	M	4·8	Uncertain.
193	28	122	10·5	R.	7 in. Heliom.	G.	M	8 31 40·8	P = 189°.
194	28	147	9·5	D.	5 inch	M.	M	8 31 41·2	
195	28	88	9·2	R.	7 inch	F.	M	8 31 44·4	
196	28	95	9·5	R.	7 in. Heliom.	G.	M	8 44 20·0	Doubtful.
197	28	...	...	R.	5 inch	M.	M	53·4	F noted "some way from limb at 8^h 44^m 29^s."
198	28	158	10·5	D.	7 inch	F.	M	8 56 30·3	Fair.
199	28	159	9·3	D.	7 in. Heliom.	G.	M	8 58 45·3	
200	28	...	...	D.	7 inch	F.	M	45·4	Good.

183–200. Observed during Lunar Eclipse; the Nos. are those of Prof. Dollen's list; the star-places are from O. Struve's *Sammlung der beobachtungen von Sternbedeckungen während der totalen Mondfinsterniss* 1888 *Januar* 28.

Digitized by Google

No.	G.M.T.	Moon's Tabular R.A.	Moon's Tabular Dec.	Moon's Tabular Par.	Moon's Tabular S.-diam.	Var. in 1^s R.A.	Var. in 1^s Dec.	Newcomb's Corr. R.A.	Newcomb's Corr. Dec.	Star's Apparent R.A.	Star's Apparent Dec.	Sec. of Mean R.A.	Sec. of Mean Dec.
	h m s	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
151	7 38 22·0	11 51 21·56	+ 3 41 56·6	61 12·00	16 41·13	+0·599	−0·206	−1·11	+ 5·2	11 54 10·97	+ 4 16 55·5	9·65	64·1*
152	11 8 28·7	14 52 24·75	−11 17 57·0	60 18·95	16 26·67	+0·602	−0·168	−1·09	+ 4·4	14 52 48·33	−10 41 23·9	46·89	21·8*
153	11 24 48·9	20 26 45·88	−17 14 59·4	55 10·87	15 2·67	+0·528	+0·079	−1·02	− 2·0	20 29 8·47	−16 54 42·7	8·55	47·7
154	14 7 38·0	20 32 28·90	−17 1 42·1	55 6·87	15 1·59	+0·526	+0·083	−1·02	− 2·0	20 34 11·42	−16 31 36·7	11·53	31·9
155	7 47 55·7	9 38 13·66	+13 53 14·0	59 3·83	16 6·18	+0·586	−0·141	−1·16	+ 3·6	9 37 35·15	+14 32 9·6	34·65	16·7*
156	5 32 26·3	14 49 12·11	−11 3 14·2	59 40·15	16 16·09	+0·588	−0·170	−1·11	+ 4·5	14 52 48·76	−10 41 23·5	46·89	21·8*
157	7 30 6·5	17 47 15·64	−19 19 16·4	58 11·78	15 52·01	+0·605	−0·041	−1·13	+ 1·0	17 49 18·31	−18 46 42·1	16·16	49·0
158	16 23 2·8	20 53 47·32	−16 36 2·0	55 45·67	15 12·16	+0·537	−0·098	−1·03	− 2·4	20 51 22·47	−16 27 45·9	20·98	57·8*
159	14 49 48·0	0 0 16·34	− 3 23 58·2	54 14·97	14 47·40	+0·466	+0·164	−0·91	− 4·2	0 1 57·25	− 3 10 35·3	56·74	39·9*
160	15 22 58·9	0 1 18·20	− 3 18 30·8	54 14·88	14 47·40	+0·466	+0·164	−0·91	− 4·2	0 2 25·43	− 3 4 31·8	24·92	36·3*
161	15 12 19·6	2 16 29·90	+ 8 28 44·5	54 47·53	14 56·29	+0·486	+0·156	−0·91	− 4·3	2 18 28·01	+ 9 12 5·1	28·05	8·8
162	12 29 8·6	16 27 16·42	−16 41 8·8	58 1·13	15 49·09	+0·581	−0·106	−1·15	+ 3·1	16 24 42·37	−16 21 52·4	40·31	55·9
163	4 57 25·9	18 57 46·49	−19 42 46·7	56 41·89	15 27·49	+0·577	+0·013	−1·11	− 0·3	19 1 40·92	−19 27 47·4	38·31	58·8*
164	11 3 19·5	19 11 49·18	−19 35 51·7	56 34·28	15 25·42	+0·574	+0·024	−1·10	− 0·6	19 11 4·01	−19 8 59·3	1·39	71·3*
165	8 3 49·3	22 31 25·47	−10 54 34·0	54 47·07	14 56·19	+0·496	+0·145	−0·96	− 3·7	22 33 21·58	−10 36 39·8	19·24	56·9*
166	15 53 9·4	5 55 45·03	+19 23 32·4	57 5·37	15 33·90	+0·580	+0·036	−1·09	− 1·4	5 57 13·06	+20 8 18·4	12·47	24·3*
167	8 23 42·2	23 51 5·88	− 4 25 47·3	54 10·69	14 46·28	+0·471	+0·164	−0·91	− 4·3	23 52 55·83	− 4 10 40·5	53·27	57·9*
168	11 13 24·8	23 56 24·89	− 3 57 50·9	54 9·43	14 45·93	+0·470	+0·165	−0·91	− 4·3	23 56 4·51	− 3 39 5·9	1·96	23·2*
169	15 3 54·5	8 22 53·73	+18 1 3·8	58 52·64	16 3·14	+0·607	−·0085	−1·15	+ 2·0	8 25 9·73	+18 28 24·8	9·14	31·9*
170	12 45 43·5	8 36 46·46	+17 56 16·2	57 24·83	15 39·20	+0·573	−0·092	−1·15	+ 2·3	8 38 17·85	+18 33 55·2	15·77	68·2*
171	6 24 31·6	21 36 26·76	−15 4 34·3	55 42·90	15 11·40	+0·524	+0·124	−1·05	− 2·9	21 35 25·99	−14 32 50·0	24·23	63·2*
172	6 20 46·9	22 25 15·27	−11 49 53·5	55 3·92	15 0·78	+0·498	+0·145	−0·99	− 3·7	22 24 41·96	−11 15 6·8	39·98	21·2*
173	6 45 29·7	22 26 4·41	−11 46 17·4	55 3·32	15 0·62	+0·497	+0·146	−0·99	− 3·7	22 25 43·91	−11 28 48·9	41·91	63·2*
174	9 29 49·1	0 3 6·48	− 3 39 50·8	54 13·24	14 46·99	+0·465	+0·169	−0·92	− 4·4	0 1 59·21	− 3 10 24·4	56·74	39·9*
175	9 51 57·3	0 3 47·64	− 3 36 6·2	54 13·04	14 46·91	+0·465	+0·169	−0·92	− 4·4	0 2 27·39	− 3 4 20·8	24·92	36·3*
176	57·6	47·65	...	...	...	...	...	...	...	...	...	...	...
177	10 26 4·2	0 4 51·06	− 3 30 19·8	54 12·73	14 46·83	+0·465	+0·169	−0·92	− 4·4	0 2 58·15	− 2 50 50·0	55·67	65·5*
178	10 30 37·3	2 18 58·35	+ 8 35 49·3	54 12·60	14 46·79	+0·476	+0·158	−0·92	− 4·5	2 18 31·27	+ 9 12 20·6	28·05	8·8
179	7 2 27·2	20 24 42·32	−18 42 8·7	57 22·28	15 38·51	+0·580	+0·082	−1·13	− 2·0	20 22 26·13	−18 11 1·0	24·91	11·4*
180	7 6 6·9	20 24 50·81	−18 41 50·7	57 22·15	15 38·47	+0·580	+0·082	−1·13	− 2·0	20 22 34·61	−18 14 34·0	33·39	44·4*
181	6 39 53·0	21 49 21·22	−14 37 12·0	56 18·78	15 21·18	+0·536	+0·134	−1·04	− 3·4	21 47 9·48	−14 4 49·1	11·38	43·1*
182	13 10 56·2	7 51 8·38	+19 43 23·6	57 35·69	15 42·15	+0·594	−0·054	−1·13	+ 1·2	7 49 8·43	+20 10 37·1	7·69	44·6*
183	10 30 11·7	8 41 50·52	+18 6 43·9	58 9·87	15 51·47	+0·594	−0·096	−1·13	+ 2·4	8 42 52·60	+18 39 39·7	53·34	32·0
184	10·5	50·47	44·0	...	...	...	...	...	...	...	...	...	...
185	10 31 30·3	8 41 53·64	+18 6 36·3	58 9·87	15 51·47	+0·594	−0·096	−1·13	+ 2·4	8 42 36·62	+18 37 26·9	37·36	19·2
186	35·9	53·86	35·8	...	...	...	...	...	...	...	...	...	...
187	10 40 41·1	8 42 14·38	+18 5 45·8	58 10·12	15 51·54	+0·594	−0·097	...	...	8 41 26·28	+18 57 58·7	27·02	51·0
188	10 44 0·8	8 42 23·36	+18 5 23·8	58 10·21	15 51·57	+0·594	−0·097	−1·13	+ 2·4	8 43 39·38	+18 46 41·1	40·12	33·4
189	10 43 59·0	23·29	24·0	...	...	...	...	...	...	...	...	...	...
190	59·3	23·29	24·0	...	...	...	...	...	...	...	...	...	...
191	10 44 37·9	8 42 24·83	+18 5 20·3	58 10·23	15 51·57	+0·594	−0·097	−1·13	+ 2·4	8 43 37·61	+18 44 42·7	38·35	35·0
192	37·4	24·81	20·4	...	...	...	...	...	...	...	...	...	...
193	10 47 12·9	8 42 30·97	+18 5 5·3	58 10·29	15 51·59	+0·594	−0·097	−1·13	+ 2·4	8 42 39·20	+18 35 14·7	39·94	7·0
194	10 47 13·3	8 42 30·98	+18 5 5·2	58 10·29	15 51·59	+0·594	−0·097	−1·13	+ 2·4	8 43 46·19	+18 48 7·9	46·93	0·2
195	10 47 16·6	8 42 31·11	+18 5 4·9	58 10·29	15 51·59	+0·594	−0·097	−1·13	+ 2·4	8 41 45·46	+19 0 50·5	46·20	42·8
196	10 59 50·1	8 43 0·96	+18 3 51·8	58 10·60	15 51·67	+0·594	−0·097	−1·13	+ 2·4	8 41 55·54	+18 55 55·5	56·28	47·8
197	11 0 23·5	2·29	48·6	58 10·61	...	...	...	...	...	...	...	...	...
198	11 11 58·4	8 43 29·80	+18 2 40·7	58 10·91	15 51·76	+0·594	−0·098	−1·13	+ 2·5	8 44 3·70	+18 37 12·9	4·44	5·2
199	11 14 13·0	8 43 35·14	+18 2 27·5	58 10·97	15 51·78	+0·594	−0·098	−1·13	+ 2·5	8 44 4·38	+18 36 25·8	5·12	18·1
200	13·1	35·14	27·5	...	...	...	...	...	...	...	...	...	...

170. Evidently 1 min. late.

An asterisk in the column "Seconds of Mean Dec." denotes that the R.A. and Dec. are from Newcomb's *Catalogue of* 1098 *Standard Clock and Zodiacal Stars.*

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Chron.	Cape Sid. Time.	Remarks.
								h m s	
201	888 Jan. 28	159	9·3	D.	5 inch	M.	M	8 58 45·6	
202	28	111	11	R.	7 inch	F.	M	9 0 50·9	
203	28	...	...	R.	5 inch	M.	M	59·0	
204	28	107	11	R.	5 inch	M.	M	9 1 25·1	
205	28	121	9·5	R.	7 inch	F.	M	9 2 54·9	
206	28	...	...	R.	5 inch	M.	M	3 9·4	
207	28	113	10·0	R.	7 inch	F.	M	9 5 57·8	
208	28	...	...	R.	5 inch	M.	M	6 24·9	
209	28	127	9·5	R.	7 in. Heliom.	G.	M	9 21 10·7	
210	28	...	...	R.	5 inch	M.	M	14·3	Good; sudden.
211	28	173	10·0	D.	7 inch	F.	M	9 23 29·8	
212	28	132	11	R.	5 inch	M.	M	9 27 46·4	Perhaps a little late; very faint.
213	28	191	9·2	D.	7 in. Heliom.	G.	M	9 28 6·8	
214	28	...	...	D.	6 inch	C.	S	6·7	Very good.
215	28	189	9·1	D.	7 in. Heliom.	G.	M	9 43 17·0	
216	28	...	...	D.	7 inch	F.	M	15·9	Very good; seen within limb.
217	28	...	...	D.	5 inch	M.	M	9·9	
218	28	179	8·5	D.	7 in. Heliom.	G.	M	9 50 39·1	
219	28	...	...	D.	7 inch	F.	M	39·1	Good.
220	28	...	...	D.	5 inch	M.	M	38·9	Very good.
221	28	146	9·5	R.	7 inch	F.	M	9 53 59·9	Good.
222	Mar. 9	44 Capricorni.....	5·8	R.D.	7 in. Heliom.	G.	M	15 39 25·2	Excellent.
223	9	45 Capricorni.....	5·8	R.D.	7 in. Heliom.	G.	M	15 47 50·8	
224	18	δ^1 Tauri.....	4·0	D.D.	7 inch	F.	S	7 58 55·5	Exact.
225	18	...	...	D.D.	7 in. Heliom.	G.	M	7 58 55·8	Good.
226	25	*l* Leonis	5·3	D.D.	7 inch	F.	M	12 40 44·7	Exact.
227	Apr. 16	B.A.C. 1835	7·3	D.D.	7 inch	F.	M	9 22 39·3	Exact.
228	16	Lalande 10955.....	8·5	D.D.	7 inch	F.	M	9 23 40·9	Exact.
229	23	B.A.C. 4104	7·3	D.D.	7 inch	F.	M	10 56 12·8	Exact.
230	July 17	ξ^2 Libræ.....	5·8	D.D.	7 in. Heliom.	G.	S	18 31 5·4	
231	17	...	...	D.D.	2½ inch	W.M.	S	5·2	
232	17	18 Libræ.....	6·2	D.D.	7 in. Heliom.	G.	S	19 32 37·5	
233	17	...	...	D.D.	7 inch	W.M.	S	37·6	
234	20	B.A.C. 6081	6·5	D.D.	7 in. Heliom.	G.	S	20 53 48·5	
235	20	...	...	D.D.	7 inch	W.M.	S	48·7	
236	21	ξ^1 Sagittarii.....	5·0	D.D.	7 inch	M.	M	18 21 11·0	
237	21	ξ^2 Sagittarii	3·5	D.D.	7 inch	M.	M	18 36 4·1	
238	21	...	...	R.B.	7 inch	M.	M	19 22 39·0	
239	23	19 Capricorni.....	6·0	R.D.	7 in. Heliom.	G.	S	17 36 51·6	
240	23	...	...	R.D.	7 inch	W.M.	S	50·3	
241	23	21 Capricorni	6·3	R.D.	7 inch	W.M.	S	21 21 31·6	
242	23	θ Capricorni.....	4·3	R.D.	7 in. Heliom.	G.	S	0 33 43·3	
243	23	...	...	R.D.	7 inch	W.M.	S	43·8	
244	25	70 Aquarii.....	6·3	R.D.	7 inch	W.M.	S	20 37 20·7	
245	28	35 Ceti.....	6·8	R.D.	7 in. Heliom.	G.	S	21 24 31·5	
246	Aug. 17	B.A.C. 6347	6·0	D.D.	7 inch	F.	S	21 22 33·2	Exact.
247	Sept. 13	15 Sagittarii.....	5·6	D.D.	7 in. Heliom.	G.	S	18 2 38·3	
248	13	...	...	D.D.	7 inch.	W.M.	S	38·1	
249	13	21 Sagittarii.....	4·9	D.D.	7 inch	F.	S	23 41 47·4	Fair.
250	Oct. 9	29 Ophiuchi.....	6·5	D.D.	7 in. Heliom.	G.	S	22 3 7·2	

201–221. Observed during Lunar Eclipse; the Nos. are those of Prof. Dollen's list; the star-places are from O. Struve's "*Sammlung der beobachtungen von Sternbedeckungen während der totalen Mondfinsterniss* 1888 *Januar* 28, except No. 204 taken from Prof. Dollen's list.

Digitized by Google

No.	G.M.T.	Moon's Tabular R.A.	Moon's Tabular Dec.	Moon's Tabular Par.	Moon's Tabular S.-diam.	Var. in 1s R.A.	Var. in 1s Dec.	Newcomb's Corr. R.A.	Newcomb's Corr. Dec.	Star's Apparent R.A.	Star's Apparent Dec.	Sec. of Mean R.A.	Sec. of Mean Dec.
	h m s	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
201	11 14 13·3	8 43 35·15	+18 2 27·5	...	...	...	...	...	...	...	...	...	...
202	11 16 18·2	8 43 40·09	+18 2 15·3	58 11·02	15 51·80	+0·594	−0·098	−1·13	+ 2·5	8 42 24·16	+18 55 62·7	24·90	55·7
203	26·3	40·41	14·5	...	...	...	...	...	...	...	...	...	...
204	11 16 52·3	8 43 41·44	+18 2 12·0	58 11·03	15 51·80	+0·594	−0·098	−1·13	+ 2·5	8 42 16·72	+18 46 17·4	17·44	9·7
205	11 18 21·8	8 43 44·99	+18 2 3·2	58 11·07	15 51·81	+0·594	−0·098	−1·13	+ 2·5	8 42 36·62	+18 37 26·9	37·36	19·2
206	36·3	45·56	1·8	58 11·08	...	...	...	...	...	...	...	...	...
207	11 21 24·3	8 43 52·22	+18 1 45·3	58 11·15	15 51·83	+0·594	−0·098	−1·13	+ 2·5	8 42 27·59	+18 42 39·1	28·33	31·4
208	51·4	53·28	42·6	58 11·16	...	...	...	...	...	...	...	...	...
209	11 36 34·7	8 44 28·27	+18 0 15·9	58 11·52	15 51·93	+0·594	−0·098	−1·13	+ 2·5	8 42 52·60	+18 39 39·7	53·34	32·0
210	38·3	28·41	15·5	...	...	...	...	...	...	...	...	...	...
211	11 38 53·4	8 44 33·76	+18 0 2·3	58 11·58	15 51·95	+0·594	−0·099	−1·13	+ 2·5	8 44 26·20	+18 31 26·9	26·94	19·2
212	11 43 9·4	8 44 43·90	+17 59 37·1	58 11·68	15 51·98	+0·594	−0·099	−1·13	+ 2·5	8 43 7·44	+18 36 18·8	8·18	11·1
213	11 43 29·7	8 44 44·70	+17 59 35·1	58 11·69	15 51·98	+0·594	−0·099	−1·13	+ 2·5	8 45 7·18	+18 39 14·5	7·92	6·8
214	29·6	...	...	...	...	...	...	...	...	...	...	...	...
215	11 58 37·4	8 45 20·64	+17 58 5·3	58 12·07	15 52·08	+0·594	−0·099	−1·13	+ 2·5	8 45 4·91	+18 30 19·1	5·65	11·4
216	36·3	20·60	5·4	...	...	...	...	...	...	...	...	...	...
217	30·3	20·37	6·0	...	...	...	...	...	...	...	...	...	...
218	12 5 58·3	8 45 38·10	+17 57 21·5	58 12·25	15 52·13	+0·594	−0·099	−1·13	+ 2·5	8 44 37·46	+18 26 53·9	38·20	46·2
219	58·3	...	...	...	...	...	...	...	...	...	...	...	...
220	58·1	38·09	...	...	...	...	...	...	...	...	..	...	...
221	12 9 18·5	8 45 46·02	+17 57 1·6	58 12·33	15 52·15	+0·594	−0·100	−1·13	+ 2·5	8 43 39·38	+18 46 41·1	40·12	33·4
222	15 12 35·0	21 34 40·89	−15 31 30·5	55 53·76	15 14·37	+0·533	+0·124	−1·07	− 3·2	21 36 56·24	−14 54 44·3	57·73	40·6*
223	15 20 59·3	21 34 58·80	−15 30 27·7	55 53·59	15 14·32	+0·533	+0·124	−1·07	− 3·2	21 37 52·48	−15 15 49·2	53·98	45·5*
224	6 57 57·6	4 18 7·67	+16 46 10·5	54 22·21	14 49·41	+0·506	+0·105	−1·00	− 3·4	4 16 27·86	+17 16 37·1	28·57	44·7*
225	57·9	7·68	10·6	...	...	...	...	...	...	...	...	...	...
226	11 11 29·3	10 45 8 12	+10 43 19·5	59 50·89	16 19·02	+0·586	−0·184	−1·11	+ 5·0	10 43 23·18	+11 8 8·3	22·23	15·4*
227	6 27 26·4	5 43 16·89	+20 11 29·4	54 44·65	14 55·53	+0·534	+0·049	−1·06	− 1·8	5 41 40·46	+20 49 39·7	41·24	45·9
228	6 28 27·9	5 43 19·08	+20 11 32·4	54 44·67	14 55·53	+0·534	+0·049	−1·06	− 1·8	5 41 42·25	+20 48 27·9	43·03	34·1
229	7 33 13·2	12 3 53·22	+ 4 0 12·4	60 24·90	16 28·30	+0·577	−0·216	−1·11	+ 6·0	12 5 57·57	+ 4 40 37·3	56·52	43·1
230	9 32 38·9	14 52 52·88	−11 10 58·0	59 33·23	16 14·20	+0·578	−0·186	−1·18	+ 5·7	14 50 42·79	−10 57 26·7	41·46	26·0*
231	38·7	52·87	...	...	...	...	...	...	...	...	...	...	...
232	10 34 1·0	14 55 14·75	−11 22 20·8	59 33·85	16 14·38	+0·579	−0·184	−1·18	+ 5·7	14 52 51·49	−10 41 37·1	50·13	36·5*
233	1·1	...	...	...	...	...	...	...	...	...	...	...	...
234	11 43 10·9	17 54 44·50	−20 39 58·0	59 39·46	16 15·91	+0·640	−0·052	−1·25	+ 1·6	17 53 22·59	−20 19 47·8	20·34	48·5
235	11·1	44·51	...	...	...	...	...	...	...	...	..	..	...
236	9 7 2·5	18 49 36·10	−21 14 24·4	59 23·23	16 11·47	+0·640	−0·001	−1·24	+ 0·4	18 50 43·48	−20 47 59·3	41·12	67·3*
237	9 21 53·1	18 50 14·08	−21 14 25·0	59 23·00	16 11·43	+0·640	−0·001	−1·24	+ 0·4	18 51 5·26	−21 15 2·4	2·90	10·4*
238	10 8 20·4	18 52 12·93	−21 14 23·4	59 22·25	16 11·20	+0·640	+0·001	−1·24	+ 0·4	18 51 5·26	−21 15 2·4	2·90	10·4*
239	8 14 58·5	20 47 4·44	−18 45 21·3	58 20·07	15 54·27	+0·599	−0·101	−1·17	− 2·4	20 48 30·36	−18 20 36·1	28·09	49·1*
240	57·2	4·39	21·2	20·08	...	...	...	...	...	...	...	...	...
241	11 59 1·7	20 55 58·62	−18 21 52·1	58 13·83	15 52·55	+0·594	+0·108	−1·16	− 2·6	20 54 35·80	−17 57 47·6	33·54	60·8*
242	15 10 42·0	21 3 32·06	−18 0 37·6	58 8·37	15 51·09	+0·590	+0·113	−1·15	− 2·7	20 59 41·36	−17 40 25·6	39·11	38·9*
243	42·5	32·08	37·5	...	...	...	...	...	...	...	...	...	...
244	11 7 6·3	22 41 45·04	−11 42 22·1	56 47·64	15 29·06	+0·529	+0·167	−1·05	− 4·3	22 42 38·57	−11 8 33·7	36·65	47·8*
245	11 42 21·6	1 5 15·96	+ 1 25 28·5	54 52·54	14 57·68	+0·471	+0·183	−0·94	− 5·1	1 6 47·27	+ 1 52 54·8	45·95	46·1*
246	10 21 45·4	18 33 57·95	−21 12 54·6	58 48·23	16 1·92	+0·625	−0·016	−1·26	+ 0·6	18 32 14·90	−21 8 30·6	12·68	37·1*
247	5 16 13·8	18 7 25·36	−21 4 18·8	58 42·82	16 0·46	+0·619	−0·039	−1·27	+ 1·4	18 8 33·71	−20 45 33·2	32·01	38·3*
248	13·6	25·35	...	...	...	...	...	...	...	...	...	...	...
249	10 54 27·3	18 21 22·93	−21 15 9·7	58 36·61	15 58·76	+0·619	−0·025	−1·27	+ 1·1	18 18 42·56	−20 35 56·7	40·81	62·2*
250	7 33 49·7	16 57 47·47	−19 19 51·4	59 57·00	16 20·69	+0·631	−0·103	−1·26	+ 6·1	16 15 18·95	−18 43 7·9	18·12	11·3*

An asterisk in the column "Seconds of Mean Dec." denotes that the R.A. and Dec. are from Newcomb's *Catalogue of* 1098 *Standard Clock and Zodiacal Stars.*

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Chron.	Cape Sid. Time.	Remarks.
								h m s	
251	1888 Oct. 9	29 Ophiuchi	6·5	D.D.	3 inch	W.M.	S	22 3 6·8	
252	15	70 Aquarii	6·3	D.D.	7 in. Heliom.	G.	S	1 13 33·8	
253	Nov. 15	ν Piscium	4·7	D.D.	7 inch	F.	S	1 20 52·1	Exact.
254	Dec. 20	μ^2 Cancri	5·3	R.D.	7 inch	F.	S	8 29 53·6	Very good.
255	1889 Jan. 8	35 Ceti	6·8	D.D.	7 inch	F.	S	3 48 13·3	Exact.
256	14	141 Tauri	6·7	D.D.	7 in. Heliom.	F.	S	5 47 42·0	
257	Feb. 5	ν Piscium	4·7	D.D.	7 inch	F.	S	5 43 0·1	Exact.
258	Mar. 10	η Geminorum	Var.	D.D.	7 inch	F.	S	8 7 24·1	Exact.
259	10	...	...	D.D.	7 in. Heliom.	G.	S	23·8	Exact.
260	11	44 Geminorum	5·9	D.D.	7 inch	F.	M	7 5 21·5	Good.
261	23	14 Sagittarii	5·9	R.D.	7 inch	F.	S	16 36 59·0	Exact.
262	24	B.A.C. 6561	7·0	R.D.	7 inch	F.	S	14 55 29·2	Very good.
263	Apr. 20	30 Sagittarii	6·1	R.D.	7 inch	F.	S	13 53 26·8	Very good.
264	20	31 Sagittarii	6·8	R.D.	7 inch	F.	S	14 20 17·4	Very good.
265	May 11	B.A.C. 4254	6·1	D.D.	7 inch	F.	S	17 48 37·3	Very fair. Def. poor; very unsteady; barely visible.
266	June 5	B.A.C. 3579	7·2	D.D.	7 inch	F.	M	12 1 44·2	Exact.
267	5	i Leonis	5·7	D.D.	7 inch	F.	M	14 16 18·8	Exact.
268	10	ξ^1 Librae	5·9	D.D.	7 inch	F.	S	18 22 33·0	Very good.
269	14	B.A.C. 6524	7·2	R.D.	7 inch	F.	S	18 34 29·7	Very good. Faint.
270	22	B.A.C. 741	7·6	R.D.	7 inch	F.	S	23 35 23·8	Very good.
271	July 19	64 Ceti	5·7	R.D.	7 inch	F.	S	2 10 46·3	Very good.
272	Aug. 8	B.A.C. 6485	6·5	D.D.	7 inch	F.	M	15 18 27·7	Exact.
273	8	B.A.C. 6524	7·2	D.D.	7 in. Heliom.	G.	S	17 44 35·2	
274	Sept. 4	ν^2 Sagittarii	5·2	D.D.	7 in. Heliom.	F.	S	0 46 1·9	Good.
275	30	B.A.C. 5866	6·5	D.D.	7 inch	F.	S	19 53 29·1	
276	Oct. 10	38 Arietis	5·2	R.D.	7 inch	F.	M	2 18 12·6	Extremely faint; telegraph pole in way.
277	Nov. 6	B.A.C. 755	7·0	D.D.	7 inch	F.	S	1 52 35·6	*Note.*
278	29	74 Aquarii	5·8	D.D.	7 inch	F.	M	0 56 50·4	Exact.
279	Dec. 1	15 Ceti	6·9	D.D.	7 inch	M.	M	4 36 1·0	Good.
280	29	33 Ceti	6·3	D.D.	7 inch	M.	M	3 39 24·5	Very faint; through cirro-stratus. Gradual.
281	31	38 Arietis	5·2	D.D.	7 inch	C.	M	3 16 58·6	Very good.
282	1890 Feb. 12	θ Librae	4·3	R.D.	7 inch	F.	M	12 37 40·5	Exact.
283	Mar. 14	B.A.C. 6343	5·8	R.D.	7 inch	F.	M	15 44 55·2	Exact.
284	Apr. 7	o^2 Librae	6·3	R.D.	7 inch	F.	S	15 19 16·3	Very good.
285	15	ψ^3 Aquarii	5·1	R.D.	7 in. Heliom.	F.	S	17 50 59·8	Very good.
286	28	η Leonis	3·6	D.D.	7 inch	F.	S	P2 44 45·2	Exact.
287	May 9	B.A.C. 6864	6·0	R.D.	7 in. Heliom.	F.	S	13 59 34·3	Very good.
288	30	B.A.C. 4572	6·4	D.D.	7 inch	F.	M	13 23 48·8	Exact.
289	June 4	24 Sagittarii	5·9	R.D.	7 inch	F.	M	14 41 30·9	Very good.
290	5	53 Sagittarii	6·2	R.D.	7 inch	F.	M	14 56 1·1	Very good.
291	5	B.A.C. 6727	6·2	R.D.	7 inch	F.	M	15 3 22·2	Very good.
292	6	17 Capricorni	5·8	R.D.	7 inch	F.	M	16 14 13·8	Very good.
293	July 21	ω Virginis	5·5	D.D.	7 inch	F.	M	16 18 19·7	
294	Aug. 26	B.A.C. 6576	6·4	D.D.	7 inch	F.	S	17 49 53·7	
295	Sept. 1	f Piscium	5·1	R.D.	7 inch	F.	M	22 7 9·9	Good.
296	30	31 Arietis	5·6	R.D.	7 inch	F.	M	22 31 55·9	Very good.
297	Oct. 2	B.A.C. 1373	5·7	D.D.	7 inch	F.	S	0 37 41·8	*Note.*
298	2	...	...	R.D.	7 inch	F.	S	0 54 35·4	Very good.
299	24	B.A.C. 8214	6·5	D.D.	7 in. Heliom.	F.	S	0 1 29·4	
300	Nov. 17	B.A.C. 7049	6·5	D.D.	7 inch	F.	M	0 59 30·7	Very good.

277. Close to illuminated limb; very difficult to see. Uncertain 1^s.
297. Good. Disappeared just beyond the fully illuminated limb; crossed in front of a dark crater and disappeared just before reaching the illuminated corner of the crater.

Digitized by Google

No.	G.M.T.	Moon's Tabular R.A.	Moon's Tabular Dec.	Moon's Tabular Par.	Moon's Tabular S.-diam.	Var. in 1ˢ R.A.	Var. in 1ˢ Dec.	Newcomb's Corr. R.A.	Newcomb's Corr. Dec.	Star's Apparent R.A.	Star's Apparent Dec.	Sec. of Mean R.A.	Sec. of Mean Dec.
	h m s	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
251	7 33 49·3	16 57 47·45	...	...	...	...	...	...	...	...	...	...	...
252	10 20 9·7	22 43 42·47	−11 39 32·4	56 2·98	15 16·88	+0·514	+0·167	−1·06	− 4·7	22 42 39·01	−11 8 33·1	36·65	47·8*
253	8 25 33·6	1 34 30·99	+ 4 25 28·2	54 24·86	14 50·14	+0·467	+0·184	−0·96	− 5·4	1 35 38·97	+ 4 55 27·8	36·17	14·0*
254	13 15 47·9	8 2 43·64	+21 8 5·3	54 57·32	14 58·98	+0·544	−0·057	−1·11	+ 1·3	8 1 13·92	+21 54 8·4	10·42	22·3*
255	7 20 11·4	1 8 6·06	+ 1 31 57·5	55 16·45	15 4·19	+0·475	+0·192	−0·97	− 5·6	1 6 48·15	+ 1 52 56·8	49·03	65·2*
256	8 55 45·1	5 54 32·47	+21 24 47·6	54 21·63	14 49·24	+0·534	+0·047	−1·14	− 1·7	5 54 59·77	+22 23 44·5	59·40	48·4*
257	7 24 33·9	1 37 36·89	+ 4 33 3·0	55 22·44	15 5·84	+0·480	+0·190	−0·97	− 5·6	1 35 38·21	+ 4 55 23·1	39·29	32·4*
258	7 38 49·4	6 8 50·07	+21 55 21·5	54 24·91	14 50·14	+0·534	+0·034	−1·09	− 1·2	6 8 10·50	+22 32 15·0	10·68	17·5*
259	49·1	50·06	...	...	...	...	...	...	...	...	...	...	...
260	6 33 1·0	6 58 11·97	+22 15 24·6	54 43·61	14 55·24	+0·543	−0·007	−1·10	− 0·2	6 58 37·55	+22 48 8·1	37·47	10·3*
261	15 15 54·0	18 7 23·63	−22 1 8·6	59 11·08	16 8·14	+0·633	−0·043	−1·34	+ 1·7	18 7 35·29	−21 44 28·7	35·61	30·5*
262	13 30 45·0	19 3 41·86	−22 20 58·8	58 54·69	16 3·70	+0·630	+0·014	−1·34	0·0	19 5 49·42	−21 50 28·5	50·08	29·3
263	10 42 43·2	18 41 54·48	−22 37 22·8	59 35·46	16 14·81	+0·646	−0·008	−1·35	+ 0·5	18 44 10·46	−22 17 16·5	10·11	18·9*
264	11 9 29·4	18 43 3·69	−22 37 36·7	59 34·89	16 14·65	+0·646	−0·008	−1·35	+ 0·5	18 45 28·63	−22 3 0·8	28·29	3·2*
265	13 14 41·1	12 35 4·99	+ 1 45 9·9	58 44·39	16 0·88	+0·536	−0·224	−1·07	+ 6·8	12 32 43·63	+ 2 27 52·5	42·71	56·8*
266	5 50 27·1	10 23 23·93	+14 23 15·7	55 43·65	15 11·61	+0·511	−0·161	−1·08	+ 4·3	10 22 52·51	+14 54 38·0	52·55	37·4*
267	8 4 39·6	10 27 58·39	+14 1 29·7	55 47·47	15 12·66	+0·511	−0·164	−1·08	+ 4·3	10 26 16·21	+14 42 24·4	16·23	23·8*
268	11 50 33·9	14 50 26·60	−11 40 47·1	60 17·10	16 26·17	+0·588	−0·208	−1·17	+ 6·5	14 48 22·69	−11 26 45·4	21·27	41·7*
269	11 46 45·1	19 1 8·00	−22 53 17·8	61 6·84	16 39·72	+0·684	+0·009	−1·37	+ 0·6	19 0 19·54	−22 39 55·8	17·77	60·9
270	16 15 22·5	2 17 35·57	+ 8 36 56·4	54 51·86	14 57·49	+0·477	+0·184	−0·99	− 6·0	2 18 34·15	+ 9 12 40·2	34·43	41·8
271	17 4 9·9	2 6 31·03	+ 7 32 31·8	55 25·18	15 6·59	+0·483	+0·190	−1·01	− 5·8	2 5 30·06	+ 8 2 63·8	29·46	59·9*
272	4 55 0·0	18 51 28·36	−22 55 52·2	60 32·75	16 30·44	+0·671	−0·001	−1·38	+ 0·3	18 54 58·48	−22 50 59·5	56·21	64·0
273	7 20 43·6	18 57 59·85	−22 55 34·0	60 33·62	16 30·67	+0·672	+0·005	−1·38	+ 0·2	19 0 20·06	−22 39 56·1	17·77	60·9
274	12 34 51·8	18 51 30·10	−23 4 20·0	59 40·72	16 16·25	+0·652	+0·001	−1·38	+ 0·5	18 48 26·47	−22 48 29·2	24·50	32·6*
275	6 0 53·3	17 19 9·66	−21 38 49·1	59 13·32	16 8·77	+0·627	−0·091	−1·36	+ 3·4	17 18 4·79	−21 20 13·7	3·78	13·8
276	11 45 14·7	2 39 38·90	+11 13 0·1	55 54·35	15 14·54	+0·504	+0·187	−1·03	− 5·7	2 38 57·28	+11 58 54·2	54·72	41·8*
277	9 33 32·3	2 19 32·77	+ 9 19 26·9	55 51·97	15 13·88	+0·498	+0·196	−1·03	− 6·3	2 20 51·26	+10 3 68·8	48·43	55·1*
278	7 7 30·3	22 48 33·95	−12 44 17·3	58 12·94	15 52·31	+0·547	+0·196	−1·20	− 5·8	22 47 39·85	−12 12 14·7	38·06	24·4*
279	10 38 13·2	0 35 20·86	− 1 52 55·1	56 46·49	15 28·75	+0·497	+0·217	−1·08	− 6·8	0 32 26·34	− 1 6 37·8	24·02	51·2*
280	7 51 40·5	1 5 55·37	+ 1 25 11·3	56 45·73	15 28·54	+0·495	+0·217	−1·07	− 6·8	1 4 53·07	+ 1 51 28·9	50·83	16·9*
281	7 21 26·4	2 39 0·49	+11 6 8·6	55 25·46	15 6·65	+0·491	+0·186	−1·05	− 6·0	2 38 57·57	+11 58 53·6	54·72	41·8*
282	13 51 32·3	15 45 48·31	−16 58 17·4	58 19·99	15 54·25	+0·571	−0·167	−1·24	+ 5·7	15 47 32·94	−16 24 20·3	33·73	21·4*
283	15 0 19·1	18 30 29·04	−23 58 53·7	59 19·42	16 10·44	+0·647	−0·020	−1·42	− 0·8	18 31 48·48	−23 35 54·3	49·28	53·0*
284	13 0 22·7	15 17 46·18	−15 14 11·2	58 4·09	15 49·90	+0·558	−0·187	−1·19	+ 6·0	15 16 54·46	−14 44 32·3	53·64	27·6*
285	15 0 14·0	23 11 1·32	−10 39 46·4	59 1·54	16 5·56	+0·555	+0·220	−1·20	− 6·8	23 13 13·20	−10 12 50·2	14·39	43·5*
286	9 3 42·7	10 2 45·84	+16 50 11·4	54 38·19	14 53·76	+0·498	−0·154	−1·06	+ 4·8	10 1 20·49	+17 17 56·2	20·15	55·8*
287	9 35 4·6	19 52 13·84	−23 42 12·5	59 32·99	16 14·14	+0·647	+0·067	−1·42	− 2·1	19 54 52·12	−23 2 19·1	51·60	20·6
288	7 36 50·8	13 37 11·41	− 5 14 51·6	57 16·15	15 36·83	+0·507	−0·225	−1·06	+ 7·1	13 38 11·94	− 4 56 46·2	10·84	40·9
289	8 34 40·6	18 25 21·87	−24 25 14·4	60 24·07	16 28·08	+0·676	−0·027	−1·41	+ 0·9	18 27 11·94	−24 6 47·0	10·29	47·7*
290	8 45 12·6	19 30 48·96	−24 13 36·2	60 24·95	16 28·30	+0·673	+0·045	−1·42	− 1·4	19 33 14·23	−23 40 35·7	12·74	38·9*
291	8 52 32·5	19 31 8·71	−24 13 16·7	60 24·92	16 28·30	+0·673	+0·045	−1·42	− 1·4	19 33 31·86	−23 40 45·0	30·37	48·2*
292	9 59 16·5	20 37 38·64	−22 12 26·4	60 11·43	16 24·62	+0·647	+0·114	−1·39	− 3·6	20 39 48·59	−21 54 43·6	47·39	48·6*
293	7 6 25·7	11 34 53·40	+ 8 21 14·1	54 30·92	14 51·78	+0·465	−0·197	−1·01	+ 6·5	11 32 47·30	+ 8 44 36·3	47·31	34·5*
294	6 16 12·0	19 6 32·54	−24 38 38·3	60 14·46	16 25·44	+0·671	+0·020	−1·44	− 0·7	19 8 53·33	−24 21 56·2	51·08	57·4
295	10 9 10·6	1 10 34·19	+ 2 39 5·5	59 26·11	16 12·26	+0·542	+0·248	−1·15	− 7·7	1 12 9·49	+ 3 2 20·3	7·46	6·1*
296	8 39 51·3	2 28 55·27	+11 23 1·0	58 31·23	15 57·30	+0·545	+0·220	−1·15	− 6·9	2 30 40·42	+11 58 27·2	38·01	13·3*
297	10 37 24·7	4 18 59·38	+20 28 30·8	56 42·08	15 27·53	+0·558	+0·137	−1·20	− 4·4	4 21 31·26	+21 22 33·5	29·06	26·0*
298	10 54 15·6	4 19 36·98	+20 30 49·7	56 41·50	15 27·38	+0·558	+0·137	−1·20	− 4·4	4 21 31·26	+21 22 33·5	29·06	26·0*
299	8 34 48·3	23 30 29·31	− 8 46 9·5	59 42·31	16 16·67	+0·557	+0·242	−1·22	− 7·8	23 29 54·00	− 8 4 10·2	51·57	24·1
300	7 58 18·2	20 25 29·90	−23 18 10·5	59 12·61	16 8·59	+0·632	+0·104	−1·41	− 3·4	20 23 5·40	−22 45 19·1	4·04	20·6*

An asterisk in the column "Seconds of Mean Dec." denotes that the R.A. and Dec. are from Newcomb's *Catalogue of* 1098 *Standard Clock and Zodiacal Stars.*

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Chron.	Cape Sid. Time.	Remarks.
								h m s	
301	1890 Nov. 20	ψ^3 Aquarii	5·1	D.D.	7 inch	F.	M	0 13 14·0	Exact.
302	Dec. 1	79 Cancri	6·5	R.D.	7 inch	F.	M	5 4 56·5	Good.
303	23	53 Tauri	5·5	D.D.	7 inch	F.	M	5 41 48·6	Very good.
304	1891 Feb. 20	λ Cancri	5·7	D.D.	7 in. Heliom.	F.	S	8 54 39·3	
305	21	B.A.C. 3138	6·5	D.D.	7 inch	F.	S	10 33 29·1	Very good.
306	Mar. 15	56 Tauri	5·4	D.D.	7 inch	F.	M	6 48 16·6	Exact.
307	19	ω^1 Cancri	5·9	D.D.	7 inch	F.	M	7 7 39·9	Exact.
308	19	ω^2 Cancri	7·0	D.D.	7 inch	F.	M	7 14 49·4	Very good.
309	May 4	B.A.C. 81	6·0	R.D.	7 inch	F.	M	20 6 1·7	Good. Cloudy till a few seconds before reappearance.
310	14	ξ Cancri	5·2	D.D.	7 inch	F.	M	10 21 39·9	Exact.
311	14	79 Cancri	6·5	D.D.	7 inch	F.	M	11 1 44·4	Exact.
312	28	φ Capricorni	5·5	R.D.	7 inch	F.	M	16 11 44·4	
313	July 18	B.A.C. 5831	7·0	D.D.	7 inch	F.	M	14 3 23·5	Exact.
314	18	Piazzi XVII. 31	7·0	D.D.	7 inch	F.	M	14 20 51·2	
315	18	39 Ophiuchi	6·0	D.D.	7 inch	F.	M	14 21 23·1	
316	22	ε Capricorni	4·5	R.D.	7 inch	F.	M	19 38 22·2	Exact.
317	Aug. 14	22 Ophiuchi	7·2	D.D.	7 inch	F.	M	16 25 21·5	Exact.
318	18	χ Capricorni	5·3	D.D.	7 inch	F.	M	20 1 25·4	Exact.
319	20	ψ^1 Aquarii	4·5	R.D.	7 inch	F.	S	2 24 17·4	Exact.
320	20	ψ^2 Aquarii	4·5	R.D.	7 inch	F.	S	3 13 39·2	Exact.
321	24	σ Arietis	5·5	R.D.	7 inch	F.	S	0 16 59·3	*Note.*
322	Oct. 12	φ Capricorni	5·5	D.D.	7 inch	F.	S	23 18 17·9	Good.
323	14	ψ^1 Aquarii	4·5	D.D.	7 inch	F.	S	3 1 5·9	Exact.
324	14	ψ^2 Aquarii	4·5	D.D.	7 inch	F.	S	3 41 20·0	Exact.
325	Nov. 6	σ Sagittarii	2·3	D.D.	10 inch	G.	S	21 37 12·3	Exact.
326	6	...	...	D.D.	6 inch	P.	M	12·4	Good.
327	6	...	...	R.B.	10 inch	G.	S	22 50 24·8	
328	6	...	...	R.B.	7 inch	M.	M	24·5	Good.
329	15	(42)	10·5	D.	10 inch	G.	S	4 23 46·3	
330		40	10·5	D.	10 inch	G.	S	4 27 37·4	
331		...	...	D.	7 inch	F.	M	39·4	Not certain.
332		...	...	D.	6 inch	P.	M	37·9	Sharp.
333		...	...	D.	7 in. Heliom.	C.	S	37·3	
334		25	9·5	R.	10 inch	G.	S	4 35 17·3	Bad observation.
335		31	9·0	R.	10 inch	G.	S	4 40 23·8	Very good; seen within limb.
336		...	...	R.	7 inch	F.	M	35·2	„ „ ? 10 seconds.
337		...	...	R.	6 inch	P	M	23·3	
338		50	11	D.	10 inch	G.	S	4 57 9·0	
339		34	10·5	R.	10 inch	G.	S	5 8 19±	
340		...	...	R.	7 inch	F.	M	16·6	
341		54	9·2	D.	10 inch	G.	S	5 11 35·2	Bad definition; limb boiling.
342		...	...	D.	7 inch	F.	M	36·6	Good.
343		...	...	D.	6 inch	P.	M	35·9	
344		...	...	D.	7 in. Heliom.	C.	S	35·2	Good.
345		60	9·5	D.	10 inch	G.	S	5 18 11	A guess.
346		38	10·5	R.	10 inch	G.	S	5 21 15·2	Very good.
347		...	...	R.	7 inch	F.	M	21·9	Good.
348		...	...	R.	7 in. Heliom.	C.	S	15·2	Good.
349		40	10·5	R.	10 inch	G.	S	5 27 56·7	
350		...	...	R.	7 inch	F.	M	58·0	Very faint.

321. Very good. May be 0s·2 in error; not looking exactly at spot.
329 to 350. Observed during LunarEclipse; the Nos. are those of Prof. Dollen's circular; the star places are from *Ast. Nach.* 3061.

Digitized by Google

No.	G.M.T.	Moon's Tabular R.A.	Moon's Tabular Dec.	Moon's Tabular Par.	Moon's Tabular S.-diam.	Var. in 1s R.A.	Var. in 1s Dec.	Newcomb's Corr. R.A.	Newcomb's Corr. Dec.	Star's Apparent R.A.	Star's Apparent Dec.	Mean Sec. of R.A.	Mean Sec. of Dec.
	h m s	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
301	7 0 21·3	23 13 12·89	−10 44 28·5	59 5·09	16 6·54	+0·550	+0·230	−1·22	− 7·6	23 13 16·49	−10 12 32·5	14·39	43·5*
302	11 8 1·0	9 1 19·31	+21 34 51·6	54 19·96	14 48·79	+0·519	−0·116	−1·13	+ 3·7	9 4 4·49	+22 26 21·6	1·72	32·8*
303	10 18 17·0	4 13 28·35	+20 18 15·6	56 26·65	15 23·34	+0·554	+0·144	−1·23	−(4·6	4 12 60·65	+20 52 41·6	57·08	31·7*
304	9 38 37·4	8 13 55·53	+23 46 52·7	54 17·61	14 48·16	+0·537	−0·082	−1·19	+ 2·5	8 14 4·06	+24 21 55·0	3·31	53·4*
305	11 13 15·2	9 7 40·46	+21 7 23·7	54 4·30	14 44·52	+0·514	−0·125	−1·13	+ 4·0	9 7 24·61	+21 43 53·1	23·73	53·7*
306	6 2 9·6	4 14 33·34	+20 59 5·4	57 25·35	15 39·33	+0·574	+0·143	−1·27	− 4·8	4 13 8·55	+21 30 35·3	9·48	34·0*
307	6 5 46·1	7 53 16·96	+24 41 5·1	54 35·48	14 53·02	+0·546	−0·065	−1·23	+ 2·0	7 54 20·58	+25 41 30·8	20·19	26·8*
308	6 12 54·4	7 53 32·55	+24 40 37·1	54 35·36	14 53·00	+0·546	−0·065	−1·23	+ 2·0	7 55 9·71	+25 23 23·8	9·31	19·9*
309	16 1 8·6	0 16 57·48	− 3 14 47·4	60 1·00	16 21·77	+0·548	+0·265	−1·22	− 8·7	0 18 54·55	− 2 49 24·0	55·50	19·2
310	5 39 3·4	9 3 16·55	+21 52 6·5	54 44·27	14 55·43	+0·524	−0·127	−1·17	+ 4·0	9 3 5·42	+22 29 15·3	5·47	9·9*
311	6 19 1·3	9 4 40·26	+21 47 2·7	54 43·57	14 55·24	+0·524	−0·127	−1·17	+ 4·0	9 4 5·13	+22 26 23·7	5·17	18·4*
312	10 33 7·7	21 7 7·75	−21 38 39·5	58 59·35	16 4·96	+0·608	+0·152	−1·39	− 5·1	21 9 26·52	−21 6 11·3	25·63	14·3*
313	5 4 36·4	17 7 50·82	−24 8 45·4	57 48·99	15 45·78	+0·608	−0·099	−1·33	+ 3·2	17 11 29·81	−23 57 14·4	27·69	7·8*
314	5 22 1·3	17 8 33·19	−24 10 28·6	57 49·60	15 45·94	+0·608	−0·099	−1·33	+ 3·2	17 11 23·85	−24 9 59·8	21·71	53·3*
315	5 22 33·1	17 8 34·48	−24 10 31·7	57 49·62	15 45·97	+0·608	−0·099	−1·33	+ 3·2	17 11 23·91	−24 10 10·4	21·77	3·9*
316	10 22 56·5	21 29 49·74	−19 58 19·5	60 23·97	16 28·05	+0·627	+0·181	−1·37	− 5·9	21 30 60·99	−19 57 6·9	58·68	15·3*
317	5 40 1·6	16 46 56·74	−23 23 59·6	56 58·02	15 31·88	+0·581	−0·114	−1·30	+ 3·8	16 47 77·34	−23 20 6·1	15·59	58·5*
318	8 59 46·5	21 0 18·24	−21 55 54·5	60 33·00	16 30·51	+0·646	+0·157	−1·38	− 5·1	21 2 21·73	−21 37 45·0	19·03	52·2*
319	15 13 43·9	23 13 53·77	−10 13 25·1	61 8·91	16 40·30	+0·585	+0·259	−1·27	− 8·2	23 10 13·27	− 9 40 39·0	10·88	53·1*
320	16 2 57·6	23 15 48·83	−10 0 37·2	61 8·74	16 40·30	+0·584	+0·260	−1·27	− 8·2	23 12 16·71	− 9 46 25·7	14·33	39·9*
321	12 51 3·0	2 43 19·55	+14 12 36·3	59 1·26	16 5·49	+0·558	+0·222	−1·28	− 7·7	2 45 30·03	+14 37 68·1	28·46	57·0*
322	8 39 51·8	21 10 38·95	−21 34 23·9	59 16·41	16 9·62	+0·610	+0·163	−1·38	− 5·5	21 9 27·98	−21 6 9·8	25·63	14·3*
323	12 14 11·5	23 12 48·13	−10 25 2·4	60 46·80	16 34·26	+0·575	+0·259	−1·27	− 8·5	23 10 13·49	− 9 40 39·2	10·88	53·1*
324	12 54 19·0	23 14 20·45	−10 14 36·0	60 47·63	16 34·49	+0·575	+0·261	−1·27	− 8·5	23 12 16·94	− 9 46 25·9	14·33	39·9*
325	5 20 45·0	18 49 47·91	−26 42 35·1	56 54·02	15 30·80	+0·610	+0·010	−1·41	− 0·4	18 48 31·61	−26 25 58·2	30·39	53·5*
326	45·1	...	...	...	...	...	...	...	...	...	...	...	...
327	6 33 45·5	18 52 46·05	−26 41 38·4	56 55·79	15 31·28	+0·610	+0·016	−1·41	− 0·4	18 48 31·61	−26 25 58·2	30·39	53·5*
328	45·2	46·04	...	...	...	...	...	...	...	...	...	...	...
329	11 30 49·2	3 22 24·66	+18 13 20·8	60 4·00	16 22·60	+0·604	+0·208	−1·33	− 6·7	3 22 18·25	+19 11 39·4	14·98	23·1
330	11 34 39·7	3 22 33·94	+18 14 8·7	60 3·92	16 22·58	+0·604	+0·208	−1·33	− 6·7	3 21 61·14	+19 15 75·1	57·86	58·8
331	41·7	34·02	9·1	...	...	...	...	...	...	...	...	...	...
332	40·2	33·96	8·8	...	...	...	...	...	...	...	...	...	...
333	39·6	33·94	8·7	...	...	...	...	...	...	...	...	...	...
334	11 42 18·3	3 22 52·41	+18 15 43·9	60 3·76	16 22·53	+0·604	+0·208	−1·33	− 6·7	3 20 35·45	+18 59 53·1	32·17	36·7
335	11 47 24·0	3 23 4·72	+18 16 47·3	...	...	...	...	...	...	...	...	...	...
336	35·4?	...	...	...	...	...	...	...	...	...	...	...	...
337	23·5	4·70	47·2	60 3·66	16 22·50	+0·604	+0·207	−1·33	− 6·7	3 21 21·81	+18 48 45·4	18·53	29·1
338	12 4 6·4	3 23 45·11	+18 20 14·8	60 3·32	16 22·41	+0·605	+0·207	−1·33	− 6·7	3 23 17·16	+19 15 27·1	13·88	10·9
339	12 15 14·6	3 24 12·05	+18 22 32·6	...	...	...	...	...	...	...	...	...	...
340	12·2	11·95	32·1	60 3·08	16 22·34	+0·605	+0·206	−1·33	− 6·7	3 21 35·01	+19 15 75·8	31·73	59·5
341	12 18 30·3	3 24 19·93	+18 23 13·2	...	...	...	...	...	...	...	...	...	...
342	31·7	19·99	13·4	...	...	...	...	...	...	...	...	...	...
343	31·0	19·96	13·3	60 3·02	16 22·33	+0·605	+0·206	−1·33	− 6·7	3 23 33·54	+19 20 27·7	30·26	11·5
344	30·3	19·93	13·2	...	...	...	...	...	...	...	...	...	...
345	12 25 5·0	3 24 35·85	+18 24 34·5	60 2·89	16 22·29	+0·605	+0·206	−1·33	− 6·7	3 23 60·77	+19 14 46·4	57·49	30·2
346	12 28 8·7	3 24 43·26	+18 25 12·3	60 2·83	16 22·27	+0·605	+0·206	−1·33	− 6·7	3 21 57·29	+19 18 60·8	54·01	44·5
347	15·4	43·52	13·7	...	...	...	...	...	...	...	...	...	...
348	8·7	43·26	12·3	...	...	...	...	...	...	...	...	...	...
349	12 34 49·1	3 24 59·40	+18 26 34·7	60 2·69	16 22·24	+0·605	+0·206	−1·33	− 6·7	3 21 61·14	+19 15 75·1	57·86	58·8
350	50·4	59·45	35·0	...	...	...	...	...	...	...	...	...	...

An asterisk in the column "Seconds of Mean Dec." denotes that the R.A. and Dec. are from Newcomb's *Catalogue of* 1098 *Standard Clock and Zodiacal Stars.*

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Chron.	Cape Sid. Time.	Remarks.
								h m s	
351	1891 Nov. 15	42	10·5	R.	10 inch	G.	S	5 38 58·4	
352		...	...	...	7 inch	F.	M	39 7·2	Good.
353		...	...	...	7 in. Heliom.	C.	S	39 0·2	Very rough.
354		46	9·5	R.	10 inch	G.	S	5 52 24·2	
355		...	...	...	7 inch	F.	M	20·9	Faint; slightly within limb when seen.
356		...	...	...	7 in. Heliom.	C.	S	25·2	
357	Nov. 19	υ Geminorum	4·2	R.D.	7 inch	F.	S	7 51 54·9	Very good; looking at spot.
358	1892 Jan. 4	ψ^1 Aquarii	4·5	D.D.	7 inch	F.	M	4 33 30·3	Exact.
359	Feb. 23	σ Sagittarii	2·3	R.D.	7 in. Heliom.	F.	S	12 20 47·9	Exact; looking at spot.
360	May 13	26 Ophiuchi	6·1	R.D.	7 inch	F.	S	13 8 26·8	Very good.
361	July 4	α Librae	3·0	D.D.	7 inch	F.	M	18 2 33·3	Exact.
362	6	C.G.A. 22239	7·0	D.D.	7 inch	F.	M	14 57 56·4	
363	6	ρ Ophiuchi (N.*)	6·3	D.D.	7 inch	F.	M	15 1 38·1	
364	6	ρ Ophiuchi (S.*)	5·3	D.D.	7 inch	F.	M	15 1 44·9	
365	7	B.A.C. 5909	6·2	D.D.	7 inch	F.	M	22 41 53·9	*Note.*
366	11	χ Capricorni	5·3	R.D.	6 inch	F.	M	15 5 48·9	Very good.
367	Aug. 3	B.A.C. 5709	6·3	D.D.	7 inch	C.	M	17 54 20·7	
368	Sept. 6	ψ^1 Aquarii	4·5	D.B.	7 inch	F.	M	19 58 22·6	*Note.*
369	11	33 Tauri	6·6	R D.	7 inch	F.	M	1 15 54·2	Very good.
370	Oct. 25	C.Z. XVII. 2867	9·0	D.D.	6 inch	F.	S	21 19 34·7	
371	25	B.A.C. 6024	7·0	D.D.	6 inch	F.	S	21 22 23·6	Very good; gradual, extended over $0^s·2$.
372	Dec. 12	46 Virginis	6·1	R.D.	6 inch	F.	S	8 42 18·4	Very good.
373	1893 Jan. 8	γ Virginis (mass)	2·8	R.D.	6 inch	F.	S	7 48 8·2	Def. very bad; Moon low. Seen as one mass.
374	Mar. 25	ι Geminorum	4·0	D.D.	6 inch	F.	S	10 10 10·6	Very good.
375	Apr. 23	79 Cancri	6·5	D.D.	7 inch	F.	S	13 20 0·5	Very good.
376	May 8	ϵ Capricorni	4·5	R.D.	7 inch	F.	S	17 57 56·2	Very good.
377	28	ι^1 Librae	4·9	D.D.	7 inch	P.	S	17 10 45·9	Def. poor, cloudy.
378	June 24	B.A.C. 4896	6·7	D.D.	7 inch	F.	S	13 2 57·3	Exact.
379	July 1	χ Capricorni	5·3	R.D.	7 inch	F.	S	21 54 12·8	Very good.
380	6	ζ^1 Piscium	4·2	R.D.	7 inch	F.	S	23 57 3·3	*Note.*
381	Aug. 2	B.A.C. 274	7·0	R.D.	7 inch	F.	S	1 30 7·5	Very good.
382	21	3 Sagittarii	Var.	D.D.	7 inch	P.	S	20 42 58·0	Good.
383	Sept. 3	β Tauri	1·9	D.B.	7 in. Heliom.	G.	S	1 21 15·4	Instantaneous.
384	3	...	...	D.B.	7 inch	W.	S	13·4	Limb very diffused.
385	23	70 Aquarii	6·3	D.D.	7 inch	P.	S	2 1 44·2	
386	Oct. 20	50 Aquarii	6·0	D.D.	7 inch	P.	S	1 23 28·2	Good.
387	26	23 Tauri	4·2	R.D.	7 in. Heliom.	F.	M	6 18 45·6	
388	26	...	...	R.D.	7 inch	P.	S	45·4	Good.
389	26	20 Tauri	4·0	R.D.	7 in. Heliom.	F.	M	6 28 29·5	
390	26	...	...	R.D.	7 inch	P.	S	29·6	Good.
391	26	η Tauri	3·0	R.D.	7 inch	P.	S	7 10 48·7	
392	Nov. 19	44 Piscium	5·8	D.D.	7 inch	F.	S	1 5 3·3	Very good.
393	24	β Tauri	1·9	D.B.	10 inch	G.	S	5 51 20·2	
394	24	...	...	D.B.	7 in. Heliom.	F.	S	20·3	*Note.*
395	24	...	...	D.B.	7 inch	C.	S	19·7	
396	24	...	...	R.D.	10 inch	G.	S	7 8 11·6	
397	24	...	...	R.D.	7 inch	C.	S	12·0	
398	Dec. 20	9 Tauri	7·0	D.D.	7 inch	C.	S	2 33 30·2	
399	20	17 Tauri	3·8	D.D.	7 in. Heliom.	F.	M	7 2 5·5	Very good.
400	20	...	...	D.D.	7 inch	C.	S	5·5	

351 to 356. Observed during Lunar Eclipse; the Nos. are those of Prof. Dollen's circular; the star places are from *Ast. Nach.* 3061.
365. Very doubtful if real occultation seen. Close to illuminated part; star very faint and difficult to follow.
368. Fair. Moon's limb apparently fully illuminated. High power.
380. Good. Is star double? Became suddenly much brighter about $0^s·2$ after first seen.
394. Very good. Star right inside limb at time given.

Digitized by Google

No.	G.M.T.	Moon's Tabular R.A.	Moon's Tabular Dec.	Moon's Tabular Par.	Moon's Tabular S.-diam.	Var. in 1^s R.A.	Var. in 1^s Dec.	Newcomb's Corr R.A.	Newcomb's Corr Dec.	Star's Apparent R.A.	Star's Apparent Dec.	Sec. of Mean R.A.	Sec. of Mean Dec.
	h m s	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
351	12 45 49·0	3 25 26·03	+18 28 50·3	60 2·46	16 22·17	+0·605	+0·205	−1·33	− 6·7	3 22 18·25	+19 11 39·4	14·97	23·1
352	57·8	26·38	52·1	...	...	...	...	...	...	...	...	...	...
353	50·8	26·10	50·7	...	...	...	...	...	...	...	...	...	...
354	12 59 12·6	3 25 58·46	+18 31 35·1	60 2·18	16 22·10	+0·606	+0·205	−1·33	− 6·7	3 22 56·01	+19 5 37·9	52·73	21·7
355	9·3	58·33	34·4	...	...	...	...	...	...	...	...	...	...
356	13·6	58·50	35·3	...	...	...	...	...	...	...	...	...	...
357	14 42 40·1	7 30 34·16	+26 9 42·6	56 48·93	15 29·41	+0·602	−0·055	−1·34	+ 1·5	7 29 15·54	+27 8 10·7	12·41	14·1*
358	8 23 56·0	23 12 33·99	−10 19 26·2	59 13·76	16 8·89	+0·545	+0·247	−1·27	− 8·5	23 10 12·68	− 9 40 44·7	14·02	33·5*
359	12 53 21·5	18 46 11·02	−26 54 30·8	57 28·34	15 40·15	+0·623	+0·013	−1·39	− 0·5	18 48 32·94	−26 25 55·8	34·11	49·4*
360	8 26 19·9	16 51 47·10	−24 59 58·4	54 58·34	14 59·26	+0·553	−0·102	−1·27	+ 3·5	16 53 34·21	−24 49 34·1	32·51	25·8*
361	9 55 10·8	14 46 18·07	−15 55 39·1	54 23·82	14 49·86	+0·478	−0·190	−1·11	+ 6·5	14 44 55·71	−15 35 45·2	54·18	33·9*
362	6 43 12·3	16 17 6·35	−23 12 53·4	55 2·25	15 0·33	+0·538	−0·129	−1·23	+ 4·4	16 18 57·80	−23 12 48·9	55·69	37·7
363	6 46 53·4	16 17 14·28	−23 13 22·0	55 2·31	15 0·34	+0·538	−0·129	−1·23	+ 4·4	16 19 8·57	−23 11 60·0	6·46	48·8*
364	6 47 0·2	16 17 14·52	−23 13 22·9	55 2·31	15 0·34	+0·538	−0·129	−1·23	+ 4·4	16 19 8·62	−23 11 63·6	6·51	52·4*
365	14 21 57·9	17 28 0·74	−26 21 19·8	55 41·88	15 11·13	+0·580	−0·067	−1·31	+ 2·2	17 25 4·42	−26 11 19·0	1·96	10·4
366	6 31 24·0	20 59 35·12	−22 20 13·3	57 43·48	15 44·28	+0·585	+0·157	−1·35	− 5·3	21 2 24·98	−21 37 31·8	22·48	37·9*
367	7 49 2·2	16 53 39·76	−25 17 27·2	55 17·79	15 4·57	+0·559	−0·096	−1·28	+ 3·3	16 53 23·17	−24 55 48·6	21·00	38·0*
368	7 39 2·9	23 6 50·91	−10 15 41·0	59 54·39	16 19·98	+0·555	+0·264	−1·25	− 8·8	23 10 16·87	− 9 40 17·8	14·02	33·5*
369	12 36 2·9	3 49 27·12	+21 57 8·2	59 30·89	16 13·57	+0·613	+0·175	−1·47	− 6·4	3 50 41·81	+22 51 53·0	39·72	40·9*
370	5 47 22·2	17 45 21·25	−27 24 20·5	54 37·17	14 53·48	+0·563	−0·043	−1·33	+ 1·4	17 43 32·35	−27 1 52·1	31·07	43·1
371	5 50 10·6	17 45 27·57	−27 24 27·8	54 37·22	14 53·49	+0·563	−0·043	−1·33	+ 1·4	17 43 37·08	−27 1 43·3	35·80	34·3
372	13 59 30·3	12 53 8·65	− 3 26 27·1	54 27·35	14 50·81	+0·442	−0·230	−1·05	+ 8·2	12 55 4·01	− 2 47 29·9	2·23	15·8*
373	11 19 19·4	12 34 10·58	− 1 13 50·2	55 5·56	15 1·23	+0·451	−0·237	−1·07	+ 8·0	12 36 14·07	− 0 51 46·3	14·33	45·8*
374	8 42 9·3	7 20 29·32	+27 21 39·3	58 19·09	15 54·00	+0·638	−0·069	−1·56	+ 2·2	7 19 5·57	+28 0 45·7	4·89	36·9*
375	9 57 26·8	9 6 26·31	+21 57 55·1	57 34·32	15 41·79	+0·570	−0·173	−1·41	+ 5·9	9 4 12·94	+22 25 54·3	12·08	49·6*
376	13 35 38·3	21 29 10·94	−20 4 49·7	56 10·08	15 18·82	+0·528	+0·183	−1·27	− 7·9	21 31 6·13	−19 56 43·8	5·42	43·4*
377	11 29 57·5	15 6 58·73	−19 30 17·4	54 2·75	14 44·10	+0·490	−0·175	−1·17	+ 6·2	15 6 9·27	−19 23 25·9	7·27	11·4*
378	5 36 39·9	14 43 37·00	−17 26 20·2	54 12·59	14 46·79	+0·480	−0·188	−1·16	+ 6·8	14 45 37·64	−17 20 56·3	35·74	41·7
379	13 58 56·9	21 4 17·89	−21 46 18·2	55 21·21	15 5·49	+0·530	+0·161	−1·28	− 5·7	21 2 28·53	−21 37 18·1	25·93	23·7*
380	15 41 47·8	1 7 57·52	+ 6 34 3·8	58 27·55	15 56·30	+0·513	+0·264	−1·27	− 9·8	1 8 9·45	+ 7 0 43·4	8·38	34·1*
381	15 28 27·1	0 55 53·60	+ 5 16 37·3	57 59·11	15 48·55	+0·502	+0·263	−1·25	− 9·8	0 54 18·84	+ 5 54 36·8	16·86	21·9*
382	9 27 22·4	17 42 12·88	−28 1 45·3	54 19·43	14 48·65	+0·560	−0·035	−1·34	+ 1·3	17 40 52·14	−27 47 33·9	49·46	22·7*
383	13 13 47·3	5 16 10·34	+27 34 17·3	59 18·39	16 10·16	+0·662	+0·072	−1·65	− 2·7	5 19 33·49	+28 30 68·1	31·66	59·5*
384	45·3	10·25	17·2	...	...	...	...	...	...	...	...	...	...
385	12 35 31·3	22 44 43·17	−11 43 54·1	57 14·78	15 36·46	+0·508	+0·244	−1·20	− 8·4	22 42 55·69	−11 6 57·9	52·46	73·1*
386	10 11 12·1	22 20 14·83	−14 35 13·9	56 36·52	15 26·03	+0·506	+0·225	−1·21	− 8·0	22 18 46·26	−14 4 6·5	43·21	17·9*
387	14 42 5·7	3 42 38·62	+23 7 3·3	60 32·39	16 30·34	+0·644	+0·181	−1·51	− 6·7	3 39 62·09	+23 36 71·2	58·47	52·4*
388	5·4	38·61	...	...	...	...	...	...	...	...	...	...	...
389	14 51 48·0	3 43 3·60	+23 8 49·0	60 32·40	16 30·34	+0·644	+0·181	−1·51	− 6·7	3 39 31·15	+24 1 77·1	27·52	58·4*
390	48·1	...	...	...	...	...	...	...	...	...	...	...	...
391	15 33 0·4	3 44 52·37	+23 16 25·6	60 32·46	16 30·36	+0·646	+0·178	−1·54	− 6·2	3 41 11·00	+23 46 44·5	7·38	25·8*
392	7 54 52·9	0 19 36·12	+ 0 43 20·2	58 16·14	15 53·19	+0·502	+0·271	−1·21	− 9·7	0 19 58·12	+ 1 20 70·1	55·03	49·5*
393	12 20 43·3	5 18 55·31	+27 40 12·3	61 14·38	16 41·78	+0·710	+0·073	−1·66	− 2·5	5 19 36·02	+28 30 71·3	31·66	59·5*
394	43·4	...	...	...	...	...	...	...	...	...	...	...	...
395	42·8	55·29	...	...	...	...	...	...	...	...	...	...	...
396	13 37 22·2	5 22 33·25	+27 45 30·7	61 13·92	16 41·66	+0·712	+0·066	−1·67	− 2·4	5 19 36·02	+28 30 71·3	31·66	59·5*
397	22·5	33·26	...	...	...	...	...	...	...	...	...	...	...
398	7 21 12·0	3 28 49·33	+22 9 41·9	60 38·45	16 31·99	+0·635	+0·193	−1·52	− 6·7	3 30 44·59	+22 51 45·5	40·47	23·4*
399	11 49 3·3	3 40 16·61	+22 59 48·7	60 46·10	16 34·08	+0·647	+0·181	−1·53	− 6·3	3 38 35·44	+23 46 56·7	31·25	35·1*
400	3·3	...	...	...	...	...	...	...	...	...	...	...	...

An asterisk in the column "Seconds of Mean Dec." denotes that the R.A. and Dec. are from Newcomb's *Catalogue of* 1098 *Standard Clock and Zodiacal Stars.*

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Chron.	Cape Sid. Time.	Remarks.
								h m s	
401	1893 Dec. 20	16 Tauri.....	6·5	D.D.	10 inch	G.	S	7 12 18·5	
402	20	...	...	D.D.	7 in. Heliom.	F.	M	18·9	Poor; def. very bad; star very faint.
403	20	...	..	D.D.	7 inch	C.	S	18·8	Very faint and diffused.
404	20	20 Tauri.....	4·0	D.D.	7 in. Heliom.	F.	M	7 45 19·0	Good.
405	20	...	...	D.D.	7 inch	C.	S	18·5	Very bad definition.
406	20	23 Tauri.....	4·2	D.D.	7 in. Heliom.	F.	M	7 53 42·1	Poor; definition dreadful; star scarcely visible.
407	20	...	...	D.D.	7 inch	C.	S	41·4	
408	1894 Jan. 18	β Tauri	1·9	D.D.	7 inch	F.	M	8 41 50·3	Very good.
409	Feb. 28	B.A.C. 6063	5·8	R.D.	7 inch	P.	M	13 19 34·3	
410	Mar. 14	B.A.C. 1772	6·2	D.D.	7 inch	F.	S	6 47 38·0	Very good.
411	16	ϕ Geminorum	4·9	D.D.	7 inch	F.	S	9 29 36·8	Very good.
412	31	χ Capricorni.....	5·3	R.D.	7 inch	F.	S	15 26 2·6	Good.
413	Apr. 24	B.A.C. 6120.....	8·0	R.D.	7 inch	F.	S	13 43 40·5	Good. Did not attain full brightness for 0s·2.
414	24	B.A.C. 6127.....	4·7	R.D.	7 inch	F.	S	14 25 9·7	Very good.
415	25	τ Sagittarii.....	3·5	R.D.	7 inch	F.	S	17 22 47·7	Very good.
416	29	50 Aquarii.....	6·0	R.D.	6 inch	F.	S	16 27 22·4	Very good.
417	29	Bradley 2961.....	6·4	R.D.	7 inch	F.	S	19 53 40·3	Very good.
418	May 2	B.A.C. 221	5·7	R.D.	6 inch	F.	S	19 50 56·2	Good.
419	21	B.A.C. 6063	5·8	R.D.	7 inch	F.	S	20 40 30·3	Pretty good; star faint.
420	July 15	B.A.C. 6120.....	8·0	D.D.	7 inch	P.	S	14 19 5·4	Difficult; moon nearly full; star faint.
421	15	B.A.C. 6127.....	4·7	D.D.	7 inch	P.	S	15 11 1·5	
422	Aug. 4	β Virginis.....	3·7	D.D.	7 inch	A.P.	S	14 51 46·3	
423	Sept. 21	B.A.C. 1772	6·2	R.D.	7 inch	F.	S	4 7 24·1	Exact.
424	Dec. 2	η Capricorni.....	5·2	D.D.	7 inch	F.	S	1 56 32·6	Exact.
425	1895 Jan. 1	82 Aquarii.....	6·8	D.D.	7 inch	F.	S	2 40 42·7	Very good.
426	20	α Scorpii	1·1	D.B.	7 inch	F.	S	10 48 35·7	
427	20	...	...	D.B.	10 inch	P.	S	35·6	
428	20	...	...	D.B.	7 in. Heliom.	A.P.	S	35·3	
429	20	...	...	R.D.	7 inch	F.	S	11 37 7·8	
430	20	...	...	R.D.	10 inch	P.	S	7·7	
431	Feb. 6	53 Aurigæ.....	5·5	D.D.	7 inch	A.P.	S	5 38 10·6	
432	6	28 Geminorum	5·4	D.D.	7 inch	P.	M	9 4 2·6	Good.
433	13	α Virginis	1·2	D.B.	10 inch	F.	S	7 21 55·6	Very uncertain; definition extremely bad.
434	13	...	...	R.D.	10 inch	F.	S	7 49 19·8	Good.
435	13	...	...	R.D.	6 inch	A.P.	S	19·6	
436	18	B.A.C. 6120.....	8·0	R.D.	7 inch	F.	S	14 4 2·7	Very good.
437	18	B.A.C. 6127.....	4·7	R.D.	7 inch	F.	S	14 48 36·5	Very good.
438	Apr. 3	ω^1 Cancri.....	5·9	D.D.	7 inch	F.	S	10 17 45·1	Exact.
439	May 6	B.A.C. 4394.....	5·9	D.D.	7 inch	F.	S	11 31 32·5	Good.
440	July 30	B.A.C. 5314.....	5·4	D.D.	7 inch	F.	S	20 2 52·0	Very good.
441	Nov. 5	B.A.C. 1772.....	6·2	R.D.	7 inch	F.	S	5 51 51·3	Hazy; star faint. May be late.

Digitized by Google

No.	G.M.T.	Moon's Tabular R.A.	Moon's Tabular Dec.	Moon's Tabular Par.	Moon's Tabular S.-diam.	Var. in 1^s R.A.	Var. in 1^s Dec.	Newcomb's Corr. R.A.	Newcomb's Corr. Dec.	Star's Apparent R.A.	Star's Apparent Dec.	Sec. of Mean R.A.	Sec. of Mean Dec.
	h m s	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
401	11 59 14·7	3 40 42·98	+23 1 39·6	60 46·38	16 34·15	+0·647	+0·181	−1·53	− 6·2	3 38 30·74	+23 57 30·2	26·54	85·7*
402	15·0	42·99	...	...	...	...	...	...	...	...	...	...	...
403	14·9	42·99	...	...	...	...	...	...	...	...	...	...	...
404	12 32 9·8	3 42 8·29	+23 7 36·5	60 47·29	16 34·40	+0·650	+0·179	−1·54	− 6·2	3 39 31·73	+24 1 80·0	27·52	58·4*
405	9·2	8·26	36·4	...	...	...	...	...	...	...	...	...	...
406	12 40 31·5	3 42 29·99	+23 9 6·7	60 47·51	16 34·46	+0·650	+0·179	−1·54	− 6·2	3 39 62·67	+23 36 73·8	58·47	52·4*
407	30·8	29·97	6·6	...	...	...	...	...	...	...	...	...	...
408	11 34 30·3	5 21 20·79	+27 49 15·5	60 46·20	16 34·10	+0·701	+0·061	−1·67	+ 0·3	5 19 36·57	+28 31 13·6	35·45	2·9*
409	13 30 16·5	17 47 48·25	−28 29 35·5	54 10·69	14 46·27	+0·560	−0·020	−1·37	+ 1·3	17 50 0·12	−28 2 59·9	0·17	52·1
410	6 4 21·7	5 32 36·58	+28 21 31·5	59 10·32	16 7·96	+0·667	+0·044	−1·69	− 2·1	5 32 34·28	+29 9 24·9	33·79	13·0
411	8 38 2·2	7 47 36·91	+26 21 2·8	59 29·19	16 13·10	+0·650	−0·121	−1·64	+ 3·7	7 47 2·05	+27 2 30·7	0·64	23·6*
412	13 34 30·9	20 59 32·28	−21 49 12·5	54 46·42	14 56·02	+0·513	+0·165	−1·26	− 5·6	21 2 29·45	−21 37 15·0	29·37	9·4*
413	10 18 3·8	17 58 6·49	−28 35 34·1	54 21·18	14 49·13	+0·566	−0·011	−1·38	+ 0·7	18 0 5·34	−28 22 28·0	3·55	20·2
414	10 59 26·2	17 59 40·14	−28 35 56·5	54 20·83	14 49·04	+0·566	−0·008	−1·38	+ 0·7	18 1 24·02	−28 28 12·8	22·23	52·0*
415	13 52 39·2	19 0 4·34	−27 58 49·2	54 12·18	14 46·68	+0·555	+0·054	−1·36	− 1·4	19 0 20·94	−27 49 35·0	19·37	29·9*
416	12 41 39·3	22 15 58·25	−14 18 56·1	55 21·05	15 5·45	+0·481	+0·218	−1·19	− 7·7	22 18 46·87	−14 3 60·8	46·43	59·8*
417	16 7 23·4	22 22 28·38	−13 33 44·9	55 26·32	15 6·89	+0·313	+0·222	−1·18	− 7·8	22 24 21·86	−13 27 28·8	21·45	27·9*
418	15 52 52·1	0 40 12·51	+ 4 25 27·8	57 42·81	15 44·10	+0·497	+0·266	−1·21	− 9·6	0 42 48·99	+ 4 44 7·9	49·31	8·0*
419	15 27 35·7	17 52 53·49	−28 27 6·2	54 18·34	14 48·35	+0·567	−0·015	−1·38	+ 1·0	17 50 2·76	−28 2 60·7	0·17	52·1
420	5 30 58·1	17 56 27·69	−28 27 19·0	54 6·81	14 45·21	+0·563	−0·006	−1·30	+ 0·8	18 0 6·97	−28 22 29·6	3·55	20·2
421	6 22 45·7	17 58 24·36	−28 27 36·8	54 6·46	14 45·12	+0·563	−0·006	−1·30	+ 0·8	18 1 25·66	−28 28 14·4	22·23	5·2*
422	4 44 55·4	11 46 57·41	+ 2 0 8·5	59 18·45	16 10·18	+0·520	−0·283	−1·29	+10·1	11 45 11·36	+ 2 21 36·9	10·41	42·2*
423	14 49 39·3	5 31 53·34	+28 32 41·8	58 46·95	16 1·59	+0·660	+0·035	−1·70	− 1·7	5 32 36·62	+29 9 22·3	33·79	13·0
424	7 56 3·7	21 0 40·44	−20 48 57·4	54 7·06	14 45·28	+0·495	+0·168	−1·26	− 5·9	20 58 25·01	−20 16 23·9	22·35	26·9*
425	6 42 9·2	22 58 39·86	− 7 39 46·1	54 20·81	14 49·03	+0·444	+0·230	−1·14	− 8·8	22 57 5·15	− 7 8 21·4	5·56	16·0*
426	13 33 59·9	16 18 59·83	−26 24 19·2	55 20·02	15 5·18	+0·565	−0·099	−1·45	+ 4·2	16 22 57·51	−26 11 61·3	58·12	55·7*
427	59·8	...	...	...	...	...	...	...	...	...	...	...	...
428	59·6	59·82	...	...	...	...	...	...	...	...	...	...	...
429	14 22 24·1	16 20 49·12	−26 29 7·6	55 18·97	15 4·88	+0·565	−0·099	−1·45	+ 4·2	16 22 57·51	−26 11 61·3	58·12	55·7*
430	24·0	...	...	...	...	...	...	...	...	...	...	...	...
431	7 17 35·1	6 29 47·99	+28 19 15·0	60 17·09	16 26·16	+0·693	−0·044	−1·72	+ 1·7	6 31 45·38	+29 4 35·1	43·52	26·2*
432	10 42 53·5	6 39 17·44	+28 8 41·9	60 23·68	16 27·96	+0·694	−0·058	−1·71	+ 2·1	6 38 8·19	+29 4 44·9	6·30	36·3*
433	8 33 31·8	13 16 23·63	−10 53 2·0	58 51·26	16 2·76	+0·530	−0·261	−1·34	+ 9·9	13 19 40·80	−10 36 58·0	39·64	47·8*
434	9 0 51·6	13 17 21·53	−11 0 9·9	58 50·15	16 2·46	+0·530	−0·261	−1·34	+ 9·9	13 19 40·80	−10 36 58·0	39·64	47·8*
435	51·3	21·52	9·8	...	...	...	...	...	...	...	...	...	...
436	14 54 53·5	17 58 18·93	−28 39 18·1	54 42·31	14 54·89	+0·573	+0·005	−1·47	+ 0·3	18 0 7·33	−28 22 27·5	7·34	20·2
437	15 39 20·0	18 0 0·76	−28 39 3·3	54 41·41	14 54·64	+0·573	+0·007	−1·47	0·0	18 1 26·03	−28 28 12·7	26·04	5·2*
438	8 16 13·0	7 56 41·29	+25 9 54·1	59 16·36	16 9·61	+0·632	−0·144	−1·66	+ 5·5	7 54 36·31	+25 40 54·6	34·74	48·4*
439	7 20 3·3	13 0 57·55	− 9 1 7·1	59 5·39	16 6·62	+0·531	−0·270	−1·37	+10·2	13 3 6·16	− 8 25 35·0	3·95	18·0
440	10 15 46·5	15 59 7·75	−25 45 45·9	56 35·88	15 25·85	+0·583	−0·118	−1·53	+ 4·8	15 56 62·84	−25 34 36·8	59·89	19·0*
441	13 37 50·3	5 34 10·57	+28 14 42·5	57 7·57	15 34·49	+0·625	+0·012	−1·64	− 0·4	5 32 42·32	+29 9 25·3	37·60	15·4

An asterisk in the column "Seconds of Mean Dec." denotes that the R.A. and Dec. are from Newcomb's *Catalogue of* 1098 *Standard Clock and Zodiacal Stars.*

Digitized by Google

Digitized by Google

OCCULTATIONS OF STARS

OBSERVED AT THE

ROYAL OBSERVATORY, CAPE OF GOOD HOPE,

1881–1895.

RESULTING EQUATIONS.

Digitized by Google

EQUATIONS RESULTING FROM COMPARISON OF OBSERVED OCCULTATIONS WITH HANSEN'S TABLES OF THE MOON.

No.	Date.	Star.	Resulting Equation.								
			"								
1	1881 Feb. 3	75 Piscium	+ 8·01 = −·965Δα	+ ·170Δδ	+·960Δα′	−·168Δδ′	−·408ΔT	−·476Δl	+·006Δφ′	+2266·4p	− 938·3s
2	Mar. 8	1 Geminorum	+ 2·72 = −·035	+ ·999	+·039	−·996	−·120	−·061	−·010	+ 322·5	− 888·5
3	18	B.A.C. 4700	− 7·84 = +·413	− ·903	−·413	+·893	+·372	+·375	+·017	− 236·7	− 940·6
4	Oct. 3	19 Aquarii	+ 9·43 = −·470	− ·878	+·463	+·866	−·342	−·452	+·012	−1854·1	− 981·3
5	25	Oeltz. Arg. (S.) 15466	+12·40 = −·878	− ·329	+·878	+·324	−·509	−·517	+·013	+2163·3	− 948·5
6	31	B.A.C. 7744	+10·10 = −·933	− ·346	+·930	+·343	−·545	−·592	+·014	+2026·1	− 970·3
7	Nov. 1	3 Piscium	+ 5·94 = −·255	− ·967	+·252	+·954	−·024	−·075	+·015	−1597·7	− 969·4
8	Dec. 24	ξ Aquarii	+13·10 = −·581	− ·809	+·582	+·806	−·524	−·507	+·017	+ 188·0	− 984·6
9	25	B.D. − 3°·5460	+13·10 = −·982	− ·178	+·975	+·176	−·847	−·589	+·011	+2250·9	− 977·8
10	27	Lalande 268	+12·83 = −·933	− ·344	+·923	+·342	−·426	−·576	+·011	+1128·8	− 958·6
11	27	d Piscium	+11·47 = −·899	− ·424	+·894	+·423	−·488	−·574	+·014	+1553·1	− 957·9
12	1882 Jan. 11	ψ Virginis	− 9·99 = −·784	− ·607	−·780	+·601	+·424	+·485	+·015	+ 933·0	− 901·3
13	Feb. 7	χ Virginis	−10·48 = +·807	− ·580	−·800	+·574	+·386	+·484	+·013	+ 741·0	− 892·7
14	11	ω^2 Scorpii	−12·50 = +·934	+ ·041	−·925	−·043	+·416	+·544	+·007	+2325·1	− 937·2
15	12	B.A.C. 5758	−11·17 = +·923	− ·112	−·917	+·108	+·475	+·567	+·010	+2398·1	− 952·8
16	Mar. 7	50 Virginis	−10·18 = +·608	− ·786	−·607	+·781	+·414	+·426	+·016	+ 307·6	− 895·8
17	8	B.A.C. 4679	−12·10 = +·958	− ·136	−·945	+·135	+·321	+·509	+·005	+ 651·8	− 904·0
18	Apr. 20	B.A.C. 1373	+ 7·57 = −·778	+ ·555	+·776	−·551	−·464	−·489	+·001	+3431·4	− 944·7
19	May 6	16 Sagittarii	−14·95 = +·901	+ ·273	−·888	−·266	+·367	+·558	−·007	− 493·8	− 948·4
20	29	B.A.C. 4679	+ 8·82 = −·915	+ ·326	+·903	−·321	−·338	−·524	−·002	+1185·5	− 912·9
21	June 4	g Sagittarii	−11·61 = +·827	− ·508	−·817	+·505	+·268	+·421	+·002	−2421·6	− 967·6
22	July 2	β Capricorni	+ 3·12 = −·345	+ ·934	+·348	−·927	−·103	−·065	−·017	+ 595·6	− 980·6
23	21	χ Virginis	+10·59 = −·987	+ ·083	+·982	−·084	−·398	−·480	+·007	+2610·0	− 889·5
25	Aug. 18	50 Virginis	+ 8·17 = −·984	− ·031	+·978	+·030	−·383	−·465	+·008	+2400·1	− 888·3
26	27	19 Aquarii	+14·84 = −·978	− ·099	+·970	+·101	−·506	−·612	−·007	−2844·7	− 997·1
27	27	ξ Aquarii	+ 4·43 = +·008	−1·000	−·006	+·991	−·171	−·200	+·015	−1785·1	− 999·7
28	Sept. 7	5 Cancri	− 4·12 = +·825	+ ·510	−·821	−·507	+·300	+·365	+·001	+3098·0	− 897·2
29	Oct. 15	Lalande 29130	+12·07 = −·929	+ ·168	+·924	−·170	−·447	−·519	+·006	+2839·9	− 908·0
30	17	Lalande 32585	+11·20 = −·903	+ ·268	+·895	−·268	−·382	−·511	+·003	+2662·0	− 926·4
31	17	Piazzi XVII. 251	+ 7·31 = −·435	− ·886	+·435	+·875	−·274	−·275	+·017	− 4·7	− 926·4
32	17	B.D. − 17°·5650	+ 12·58 = −·925	− ·165	+·921	+·161	−·470	−·536	+·011	+2347·0	− 926·7
33	Nov. 14	Lalande 34354	+ 4·58 = −·204	− ·976	+·208	+·972	−·242	−·181	+·015	−1067·7	− 934·2
34	15	B. D. − 17°·5650	+13·73 = −·920	+ ·267	+·913	−·268	+·655	+·557	+·004	−2925·6	− 942·3
35	16	B. D. − 13°·5661	+ 9·25 = −·399	− ·911	+·397	+·900	−·326	−·357	+·017	− 430·6	− 950·4
36	16	B. D. − 14°·5738	+13·15 = −·961	+ ·127	+·952	−·127	−·391	−·526	+·005	+2427·7	− 950·6
38	16	B. D. − 13°·5667	+11·60 = −·801	− ·563	+·795	+·555	−·450	−·535	+·015	+1067·6	− 950·6
39	16	B. D. − 14°·5742	+ 9·90 = −·914	+ ·333	+·906	−·331	−·346	−·469	+·002	+2790·3	− 950·7
41	16	Lalande 39303	+ 5·63 = −·482	+ ·868	+·476	−·863	−·066	−·145	−·008	+2739·0	− 951·0
42	18	B.A.C. 7744	+ 8·70 = −·383	− ·923	+·378	+·910	−·325	−·394	+·015	−1141·9	− 966·5
44	18	B.D. − 5°·5739	+10·75 = −·664	− ·745	+·656	+·735	−·400	−·515	+·015	− 273·0	− 966·7
45	18	B.D. − 5°·5735	+ 6·18 = −·246	− ·969	+·243	+·957	−·293	−·327	+·016	−1290·0	− 966·7
46	18	B.A.C. 7752	+ 4·33 = +·243	− ·970	−·240	+·959	−·109	−·057	+·013	−2176·1	− 966·9
47	Dec. 5	α Virginis	+ 7·46 = −·247	+ ·968	+·249	−·962	−·286	−·266	−·015	+ 931·0	− 892·1
49	5	α Virginis	− 7·49 = +·887	+ ·430	−·880	−·428	+·273	+·366	+·001	+2867·7	− 892·2
51	1883 Feb. 14	B.A.C. 1242	+10·32 = −·736	− ·628	+·725	+·624	−·319	−·483	+·010	− 499·4	− 952·4
52	Apr. 28	e^1 Sagittarii	− 6·40 = +·252	+ ·965	−·247	−·959	+·166	+·237	−·011	+2206·6	− 930·3
53	May 13	h Leonis	+ 8·70 = −·971	− ·173	+·960	+·172	−·299	−·459	+·008	+1314·9	− 907·8
54	July 19	e^2 Sagittarii	+15·54 = −·865	− ·428	+·857	+·428	−·442	−·562	−·001	−2802·2	− 940·5
55	Sept. 7	ζ^1 Libræ	+ 8·49 = −·780	− ·580	+·776	+·573	−·289	−·349	+·014	+1085·5	− 888·0
56	Nov. 13	29 Arietis	+12·44 = −·798	− ·571	+·791	+·564	−·496	−·593	+·001	−3305·9	−1003·7

Digitized by Google

No.	Date.	Star.	Resulting Equation.
			$''$
57	1884 Jan. 2	44 Aquarii	$+14{\cdot}53 = -{\cdot}962\Delta\alpha - {\cdot}250\Delta\delta + {\cdot}960\Delta\alpha' + {\cdot}248\Delta\delta' - {\cdot}524\Delta T - {\cdot}555\Delta l + {\cdot}012\Delta\phi' + 2263{\cdot}6p - 939{\cdot}8s$
58	7	o Arietis	$+7{\cdot}74 = -{\cdot}785 + {\cdot}587 + {\cdot}773 - {\cdot}581 - {\cdot}216 - {\cdot}392 - {\cdot}006 + 1693{\cdot}3 - 975{\cdot}5$
59	Mar. 8	B.A.C. 3122	$+10{\cdot}10 = -{\cdot}582 + {\cdot}805 + {\cdot}579 - {\cdot}799 - {\cdot}388 - {\cdot}430 - {\cdot}006 + 3160{\cdot}9 - 934{\cdot}3$
60	9	B.A.C. 3407	$+11{\cdot}31 = -{\cdot}764 + {\cdot}636 + {\cdot}753 - {\cdot}628 - {\cdot}347 - {\cdot}502 - {\cdot}007 + 1748{\cdot}2 - 927{\cdot}2$
61	9	π Leonis	$+11{\cdot}14 = -{\cdot}765 + {\cdot}635 + {\cdot}757 - {\cdot}628 - {\cdot}376 - {\cdot}502 - {\cdot}004 + 2526{\cdot}4 - 926{\cdot}7$
62	15	μ Libræ	$-12{\cdot}51 = +{\cdot}940 + {\cdot}249 - {\cdot}929 - {\cdot}246 + {\cdot}275 + {\cdot}442 + {\cdot}001 + 1708{\cdot}9 - 887{\cdot}5$
63	24	κ Aquarii	$-40{\cdot}68^* = +{\cdot}991 - {\cdot}094 - {\cdot}989 + {\cdot}093 + {\cdot}498 + {\cdot}535 + {\cdot}010 + 2686{\cdot}2 - 961{\cdot}2$
64	29	σ Arietis	$+5{\cdot}76 = -{\cdot}578 + {\cdot}803 + {\cdot}577 - {\cdot}799 - {\cdot}248 - {\cdot}255 - {\cdot}005 + 3465{\cdot}7 - 990{\cdot}4$
65	May 1	29 Cancri	$+3{\cdot}21 = +{\cdot}132 + {\cdot}991 - {\cdot}131 - {\cdot}980 - {\cdot}071 - {\cdot}044 - {\cdot}011 + 2584{\cdot}1 - 949{\cdot}2$
66	30	B.A.C. 3407	$+7{\cdot}50 = -{\cdot}258 + {\cdot}965 + {\cdot}254 - {\cdot}954 - {\cdot}240 - {\cdot}291 - {\cdot}012 + 2316{\cdot}2 - 938{\cdot}1$
67	June 5	μ Libræ	$+8{\cdot}94 = -{\cdot}490 + {\cdot}864 + {\cdot}485 - {\cdot}852 - {\cdot}275 - {\cdot}338 - {\cdot}915 + 316{\cdot}0 - 884{\cdot}5$
68	Aug. 6	ν Aquarii	$+9{\cdot}46 = -{\cdot}914 - {\cdot}354 + {\cdot}901 + {\cdot}350 - {\cdot}339 - {\cdot}530 + {\cdot}004 - 814{\cdot}5 - 918{\cdot}0$
69	Sept. 11	m Tauri	$-24{\cdot}89 = +{\cdot}451 + {\cdot}880 - {\cdot}451 - {\cdot}875 + {\cdot}311 + {\cdot}313 - {\cdot}007 + 3278{\cdot}1 - 969{\cdot}9$
70	Oct. 3	21 Piscium	$+11{\cdot}78 = -{\cdot}636 - {\cdot}772 + {\cdot}632 + {\cdot}767 - {\cdot}433 - {\cdot}491 + {\cdot}006 - 3180{\cdot}2 - 958{\cdot}6$
71	4	53	$-11{\cdot}33 = +{\cdot}996 + {\cdot}008 - {\cdot}983 - {\cdot}008 + {\cdot}413 + {\cdot}569 + {\cdot}002 + 902{\cdot}1 - 971{\cdot}1$
73	4	55	$-12{\cdot}28 = +{\cdot}880 + {\cdot}469 - {\cdot}868 - {\cdot}463 + {\cdot}404 + {\cdot}587 - {\cdot}004 + 1779{\cdot}6 - 971{\cdot}2$
74	4	56	$-13{\cdot}22 = +{\cdot}982 + {\cdot}169 - {\cdot}968 - {\cdot}167 + {\cdot}385 + {\cdot}591 \cdot 000 + 1095{\cdot}5 - 971{\cdot}2$
76	4	67	$+3{\cdot}77 = +{\cdot}068 + {\cdot}998 - {\cdot}068 - {\cdot}985 + {\cdot}211 + {\cdot}220 - {\cdot}013 + 2273{\cdot}0 - 971{\cdot}2$
77	4	83	$+15{\cdot}00 = -{\cdot}947 - {\cdot}312 + {\cdot}933 + {\cdot}307 - {\cdot}396 - {\cdot}596 + {\cdot}002 - 1303{\cdot}4 - 971{\cdot}3$
78	4	66	$-8{\cdot}49 = +{\cdot}456 + {\cdot}889 - {\cdot}449 - {\cdot}878 + {\cdot}326 + {\cdot}421 - {\cdot}011 + 2200{\cdot}2 - 971{\cdot}3$
80	4	77	$-51{\cdot}94 = +{\cdot}628 + {\cdot}777 - {\cdot}619 - {\cdot}766 + {\cdot}364 + {\cdot}499 - {\cdot}011 + 1675{\cdot}8 - 971{\cdot}6$
81	28	c^1 Capricorni	$+8{\cdot}89 = -{\cdot}781 + {\cdot}610 + {\cdot}770 - {\cdot}601 - {\cdot}155 - {\cdot}318 - {\cdot}009 + 1012{\cdot}7 - 919{\cdot}6$
82	28	c^1 Capricorni	$-4{\cdot}22 = +{\cdot}045 + {\cdot}999 - {\cdot}045 - {\cdot}985 + {\cdot}166 + {\cdot}166 - {\cdot}015 + 1360{\cdot}3 - 919{\cdot}9$
83	Nov. 29	54 Ceti	$+5{\cdot}00 = -{\cdot}151 - {\cdot}988 + {\cdot}147 + {\cdot}979 - {\cdot}203 - {\cdot}253 + {\cdot}014 - 2119{\cdot}6 - 979{\cdot}7$
85	Dec. 1	B.A.C. 1206	$+13{\cdot}13 = -{\cdot}955 - {\cdot}110 + {\cdot}940 + {\cdot}108 - {\cdot}411 - {\cdot}632 + {\cdot}003 + 81{\cdot}5 - 1001{\cdot}7$
86	2	i Tauri	$+10{\cdot}33 = -{\cdot}844 - {\cdot}462 + {\cdot}838 + {\cdot}456 - {\cdot}503 - {\cdot}590 - {\cdot}002 - 3375{\cdot}7 - 1005{\cdot}4$
87	2	i Tauri	$-16{\cdot}89 = +{\cdot}951 - {\cdot}036 - {\cdot}939 + {\cdot}037 + {\cdot}457 + {\cdot}633 + {\cdot}007 + 1805{\cdot}7 - 1005{\cdot}4$
88	2	i Tauri	$-34{\cdot}32 = +{\cdot}951 - {\cdot}032 - {\cdot}940 + {\cdot}033 + {\cdot}458 + {\cdot}634 + {\cdot}007 + 1810{\cdot}7 - 1005{\cdot}4$
89	1885 Jan. 4	48 Leonis	$-14{\cdot}29 = +{\cdot}828 - {\cdot}552 - {\cdot}820 + {\cdot}549 + {\cdot}433 + {\cdot}558 + {\cdot}014 + 683{\cdot}1 - 961{\cdot}7$
91	Mar. 4	κ Virginis	$-11{\cdot}51 = +{\cdot}830 - {\cdot}537 - {\cdot}819 + {\cdot}529 + {\cdot}333 + {\cdot}506 + {\cdot}008 - 899{\cdot}5 - 917{\cdot}3$
92	Apr. 2	γ Libræ	$+11{\cdot}79 = -{\cdot}890 - {\cdot}390 + {\cdot}878 + {\cdot}384 - {\cdot}248 - {\cdot}428 + {\cdot}007 - 65{\cdot}1 - 903{\cdot}4$
93	2	γ Libræ	$-9{\cdot}95 = +{\cdot}616 - {\cdot}771 - {\cdot}607 + {\cdot}762 + {\cdot}263 + {\cdot}395 + {\cdot}009 - 1693{\cdot}9 - 903{\cdot}0$
94	4	B.A.C. 5771	$-6{\cdot}21 = +{\cdot}493 + {\cdot}856 - {\cdot}489 - {\cdot}854 + {\cdot}165 + {\cdot}225 - {\cdot}007 + 2819{\cdot}1 - 891{\cdot}4$
95	18	m Tauri	$+22{\cdot}26 = -{\cdot}892 - {\cdot}350 + {\cdot}887 + {\cdot}353 - {\cdot}507 - {\cdot}578 + {\cdot}013 + 1971{\cdot}8 - 988{\cdot}3$
96	May 5	β Capricorni	$+11{\cdot}40 = -{\cdot}745 + {\cdot}635 + {\cdot}736 - {\cdot}625 - {\cdot}186 - {\cdot}321 - {\cdot}012 + 43{\cdot}7 - 889{\cdot}3$
97	5	B.A.C. 6992	$-7{\cdot}27 = +{\cdot}433 + {\cdot}894 - {\cdot}427 - {\cdot}880 + {\cdot}205 + {\cdot}299 - {\cdot}013 + 1041{\cdot}3 - 889{\cdot}5$
98	5	β Capricorni	$-6{\cdot}72 = +{\cdot}362 + {\cdot}927 - {\cdot}357 - {\cdot}913 + {\cdot}189 + {\cdot}266 - {\cdot}014 + 1023{\cdot}3 - 889{\cdot}5$
99	22	τ Leonis	$+13{\cdot}33 = -{\cdot}804 + {\cdot}593 + {\cdot}795 - {\cdot}587 - {\cdot}385 - {\cdot}528 - {\cdot}012 - 94{\cdot}6 - 940{\cdot}9$
100	24	θ Virginis	$+13{\cdot}12 = -{\cdot}855 + {\cdot}512 + {\cdot}847 - {\cdot}506 - {\cdot}395 - {\cdot}520 - {\cdot}012 - 745{\cdot}6 - 920{\cdot}7$
101	June 23	γ Libræ	$+14{\cdot}42 = -{\cdot}917 - {\cdot}315 + {\cdot}910 + {\cdot}310 - {\cdot}335 - {\cdot}441 + {\cdot}011 + 1602{\cdot}0 - 896{\cdot}2$
102	25	B.A.C. 5771	$+16{\cdot}01 = -{\cdot}952 - {\cdot}027 + {\cdot}945 + {\cdot}032 - {\cdot}390 - {\cdot}495 - {\cdot}007 - 2337{\cdot}5 - 887{\cdot}3$
103	25	B.A.C. 5839	$+14{\cdot}68 = -{\cdot}838 - {\cdot}472 + {\cdot}834 + {\cdot}466 - {\cdot}370 - {\cdot}423 + {\cdot}013 + 1492{\cdot}3 - 886{\cdot}1$
104	28	e^1 Sagittarii	$-9{\cdot}60 = +{\cdot}683 - {\cdot}700 - {\cdot}681 + {\cdot}691 + {\cdot}267 + {\cdot}307 + {\cdot}015 + 718{\cdot}7 - 882{\cdot}8$
105	July 1	θ Aquarii	$-15{\cdot}41 = +{\cdot}757 + {\cdot}644 - {\cdot}749 - {\cdot}635 + {\cdot}349 + {\cdot}462 - {\cdot}013 - 280{\cdot}6 - 895{\cdot}5$
106	26	β Capricorni	$+11{\cdot}31 = -{\cdot}476 - {\cdot}869 + {\cdot}469 + {\cdot}857 - {\cdot}213 - {\cdot}314 + {\cdot}013 - 1029{\cdot}0 - 884{\cdot}7$
107	26	β Capricorni	$-13{\cdot}43 = +{\cdot}869 - {\cdot}431 - {\cdot}857 + {\cdot}427 + {\cdot}226 + {\cdot}403 + {\cdot}005 - 970{\cdot}8 - 884{\cdot}8$
108	1886 Jan. 14	38 Arietis	$+9{\cdot}35 = -{\cdot}945 - {\cdot}267 + {\cdot}936 + {\cdot}267 - {\cdot}427 - {\cdot}554 + {\cdot}011 + 1637{\cdot}7 - 941{\cdot}1$
109	Feb. 9	B.A.C. 481	$+4{\cdot}25 = -{\cdot}140 - {\cdot}990 + {\cdot}137 + {\cdot}988 - {\cdot}191 - {\cdot}224 + {\cdot}014 - 1559{\cdot}3 - 912{\cdot}3$
110	12	Piazzi III. 261	$+6{\cdot}73 = -{\cdot}962 - {\cdot}051 + {\cdot}948 + {\cdot}051 - {\cdot}357 - {\cdot}560 + {\cdot}003 + 684{\cdot}4 - 949{\cdot}1$
111	13	m Tauri	$+4{\cdot}50 = -{\cdot}219 - {\cdot}973 + {\cdot}216 + {\cdot}963 - {\cdot}144 - {\cdot}190 + {\cdot}010 - 2748{\cdot}0 - 963{\cdot}3$

63.* Diminished 1 min. Sid. $-9{\cdot}94 = +{\cdot}991\Delta\alpha - {\cdot}097\Delta\delta - {\cdot}989\Delta\alpha' + {\cdot}096\Delta\delta' + {\cdot}498\Delta T + {\cdot}535\Delta l + {\cdot}010\Delta\phi' + 2553{\cdot}8p - 961\ 2s.$

88. Evidently some error in observation.

Digitized by Google

No.	Date.	Star.	Resulting Equation.									
			"									
112	1886 Feb. 14	71 Orionis	+ 7·78	= −·909Δα	− ·286Δδ	+·897Δα′	+·286Δδ′	−·400ΔT	−·579Δl	+·009Δφ′	+ 939·2p	− 979·3*
113	Mar. 20	B.A.C. 4277	− 7·70	= +·783	− ·622	−·776	+·616	+·464	+·570	+·015	+ 598·6	− 980·1
114	May 14	46 Virginis	+14·00	= −·914	+ ·404	+·903	−·399	−·404	−·578	−·002	+1976·7	− 959·2
115	16	ξ Libræ	+14·56	= −·896	+ ·404	+·888	−·402	−·444	−·556	+·001	+2904·4	− 943·7
116	21	ρ Sagittarii	+12·85	= −·850	+ ·447	+·840	−·438	−·287	−·437	−·010	− 602·9	− 898·7
117	21	ρ Sagittarii	−12·75	= +·786	+ ·562	−·775	+·570	+·273	+·441	−·008	+ 674·8	− 898·3
118	24	λ Capricorni	−13·27	= +·972	+ ·105	−·967	−·107	+·412	+·488	+·007	+2661·2	− 887·6
119	June 6	o^1 Cancri	+11·78	= −·963	− ·082	+·950	+·083	−·390	−·578	+·006	+1333·1	− 977·9
120	10	γ Virginis (N. *)	+13·22	= −·931	− ·366	+·917	−·361	−·377	−·574	−·004	+ 931·9	− 956·2
121	10	γ Virginis (S. *)	+13·67	= −·929	+ ·369	+·916	−·363	−·377	−·574	−·004	+ 938·8	− 956·2
122	10	γ Virginis (N. *)	−11·52	= +·818	− ·574	−·808	+·567	+·393	+·551	+·005	−2121·1	− 955·8
123	10	γ Virginis (S. *)	−11·29	= +·820	− ·572	−·810	+·565	+·392	+·551	+·005	−2120·2	− 955·8
124	10	B.A.C. 4277	+15·28	= −·996	− ·090	+·983	+·089	−·333	−·525	+·005	+1029·7	− 955·8
125	15	B.A.C. 5771	+13·09	= −·778	+ ·579	+·773	−·569	−·393	−·466	−·014	−1011·8	− 916·3
126	July 5	ρ Leonis	−15·39	= +·956	− ·250	−·945	+·246	+·543	+·609	−·002	−2331·0	− 984·1
127	8	65 Virginis	+12·88	= +·782	+ ·619	−·774	−·613	+·187	+·315	−·004	+2643·4	− 953·1
128	8	66 Virginis	+ 9·66	= −·415	+ ·909	+·411	−·902	−·325	−·387	−·010	+2656·7	− 952·7
129	Aug. 10	B.A.C. 6293	+14·08	= −·879	+ ·374	+·869	−·371	−·329	−·472	+·001	+2293·6	− 898·4
130	24	71 Orionis	−10·13	= +·735	+ ·632	−·727	−·625	+·342	+·462	−·003	+2862·7	− 964·9
131	Sept. 5	B.A.C. 5839	+15·69	= −·821	+ ·506	+·812	−·502	−·338	−·478	−·002	+2431·3	− 916·5
132	Oct. 7	18 Aquarii	+13·61	= −·947	− ·223	+·942	+·220	−·424	−·493	+·011	+2073·9	− 886·1
133	Nov. 1	ρ Sagittarii	+16·95	= −·889	− ·347	+·885	+·342	−·441	−·496	+·013	+1895·6	− 908·1
134	12	δ^2 Tauri	−13·14	= +·908	− ·324	−·897	+·318	+·327	+·482	−·001	−2252·2	− 932·0
135	14	68 Orionis	−12·22	= +·809	− ·518	−·799	+·517	+·322	+·473	+·012	+ 506·5	− 946·2
136	Dec. 6	μ Piscium	+13·58	= −·822	− ·565	+·817	+·563	−·407	−·493	+·014	+ 909·3	− 902·6
137	11	χ^2 Orionis	−34·70*	= +·945	− ·031	−·932	+·028	+·367	+·574	−·002	− 695·7	− 954·4
138	15	ν Leonis	−13·85	= +·793	+ ·584	−·781	−·578	+·260	+·378	−·008	+1088·7	− 971·6
139	1887 Jan. 11	7 Leonis	−17·43	= +·662	− ·731	−·653	+·722	+·378	+·509	+·007	−2543·7	− 986·3
140	19	B.A.C. 5695	−14·05	= +·732	− ·642	−·735	+·637	+·498	+·463	+·016	+1026·1	− 928·9
141	31	B.A.C. 741	+ 6·53	= −·532	+ ·843	+·529	−·837	−·089	−·135	−·007	+2908·3	− 899·6
142	Feb. 1	B.A.C. 987	+11·48	= −·959	+ ·198	+·946	−·196	−·275	−·463	·000	+1208·5	− 909·2
143	4	χ^2 Orionis	+ 8·06	= −·728	− ·640	+·717	+·632	−·308	−·462	+·005	−2124·8	− 952·5
144	10	*b* Virginis	−21·60	= +·934	− ·353	−·925	+·350	+·477	+·623	+·012	+1308·9	− 994·7
145	18	B.A.C. 6658	−11·89	= +·687	+ ·688	−·681	−·685	+·303	+·396	−·003	+2843·5	− 903·8
146	Mar. 14	φ Ophiuchi	+ 9·61	= −·298	+ ·951	+·293	−·936	−·194	−·268	−·015	+1149·2	− 950·0
147	14	φ Ophiuchi	−10·68	= +·696	+ ·688	−·688	−·676	+·209	+·336	−·013	− 11·5	− 949·5
148	31	68 Orionis	+ 8·85	= −·940	+ ·092	+·933	−·090	−·425	−·539	+·007	+2514·9	− 931·3
149	Apr. 4	α Leonis	+12·71	= −·694	+ ·705	+·689	−·698	−·450	−·533	−·004	+3247·8	− 986·9
150	4	α Leonis	−11·62	= +·978	− ·041	−·971	+·037	+·496	+·598	−·008	−2735·2	− 987·3
151	6	*b* Virginis	+13·79	= −·989	+ ·132	+·977	−·131	−·429	−·620	−·007	−1248·6	−1001·1
152	9	18 Libræ	−13·09	= +·655	− ·744	−·646	+·733	+·391	+·519	+·014	− 400·6	− 986·7
153	15	B.A.C. 7097	−14·64	= +·732	+ ·643	−·730	−·644	+·411	+·438	−·001	+3267·4	− 902·7
154	15	B.A.C. 7145	− 8·93	= +·796	− ·555	−·791	+·548	+·300	+·372	+·014	+1136·1	− 901·6
155	May 1	ψ Leonis	+11·57	= −·948	+ ·216	+·936	−·213	−·411	−·586	+·002	+2004·7	− 966·2
156	June 3	18 Libræ	+14·36	= −·938	+ ·295	+·930	−·289	−·477	−·601	−·011	−1703·9	− 976·1
157	6	B.A.C. 6060	−37·81	= +·771	− ·577	−·768	+·569	+·443	+·491	+·015	+1288·2	− 952·0
158	9	B.A.C. 7263	−15·07	= +·731	+ ·646	−·723	−·635	+·212	+·329	−·013	− 344·1	− 912·2
159	13	4 Ceti	− 4·44	= +·150	+ ·989	−·148	−·978	+·202	+·233	−·013	+1912·3	− 887·4
160	13	5 Ceti	− 8·13	= +·351	+ ·936	−·347	−·925	+·253	+·318	−·011	+2035·1	− 887·4
161	16	B.A.C. 741	−10·62	= +·743	− ·660	−·737	+·658	+·173	+·258	+·014	+ 502·5	− 896·3

137. Diminished 1 min. Sid. −12·68 = +·945Δα −·033Δδ −·932Δα′ +·030Δδ′ +·366ΔT +·574Δl −·002Δφ′ − 688·3p −954·4s.
157. Diminished 1 min. Sid. −11·24 = +·765 −·586 −·762 +·578 +·440 +·487 +·015 +1260·5 −952·0.

Digitized by Google

No.	Date.	Star.	Resulting Equation.									
			"									
162	1887 July 29	ϕ Ophiuchi	$+12\cdot83 = -\cdot691\Delta\alpha$	$+\cdot692\Delta\delta$	$+\cdot688\Delta\alpha'$	$-\cdot692\Delta\delta'$	$-\cdot427\Delta T$	$-\cdot475\Delta l$	$-\cdot003\Delta\phi'$	$+3334\cdot2p$	$-\ 949\cdot1s$	
163	Aug. 1	B.A.C. 6536	$+13\cdot58 = -\cdot823$	$+\cdot485$	$+\cdot820$	$-\cdot475$	$-\cdot415$	$-\cdot469$	$-\cdot014$	$-1554\cdot4$	$-\ 927\cdot5$	
164	1	d Sagittarii	$+12\cdot90 = -\cdot651$	$-\cdot723$	$+\cdot645$	$+\cdot711$	$-\cdot288$	$-\cdot392$	$+\cdot014$	$+\ 190\cdot3$	$-\ 925\cdot4$	
165	5	64 Aquarii	$-16\cdot76 = +\cdot820$	$+\cdot551$	$-\cdot814$	$-\cdot548$	$+\cdot397$	$+\cdot486$	$-\cdot001$	$+2932\cdot6$	$-\ 896\cdot2$	
166	14	χ^4 Orionis	$-13\cdot62 = +\cdot907$	$-\cdot273$	$-\cdot898$	$+\cdot274$	$+\cdot370$	$+\cdot516$	$+\cdot010$	$+1406\cdot4$	$-\ 933\cdot9$	
167	Sept. 3	27 Piscium	$-\ 9\cdot34 = +\cdot512$	$+\cdot858$	$-\cdot507$	$-\cdot851$	$+\cdot309$	$+\cdot382$	$-\cdot008$	$+2517\cdot5$	$-\ 886\cdot3$	
168	3	29 Piscium	$-15\cdot79 = +\cdot826$	$+\cdot561$	$-\cdot815$	$-\cdot553$	$+\cdot318$	$+\cdot481$	$-\cdot006$	$+1279\cdot8$	$-\ 885\cdot9$	
169	13	θ Cancri	$-10\cdot20 = +\cdot780$	$+\cdot572$	$-\cdot778$	$-\cdot569$	$+\cdot398$	$+\cdot425$	$\cdot000$	$+3500\cdot7$	$-\ 963\cdot1$	
170	Nov. 7	δ Cancri	$-40\cdot26^* = +\cdot946$	$+\cdot110$	$-\cdot938$	$-\cdot108$	$+\cdot413$	$+\cdot532$	$+\cdot006$	$+2520\cdot7$	$-\ 939\cdot2$	
171	21	42 Capricorni	$+12\cdot46 = -\cdot598$	$-\cdot785$	$+\cdot592$	$+\cdot774$	$-\cdot325$	$-\cdot410$	$+\cdot015$	$-\ \ 49\cdot7$	$-\ 911\cdot4$	
172	22	σ Aquarii	$+10\cdot97 = -\cdot440$	$-\cdot893$	$+\cdot435$	$+\cdot881$	$-\cdot275$	$-\cdot349$	$+\cdot015$	$-\ 753\cdot6$	$-\ 900\cdot8$	
173	22	58 Aquarii	$+11\cdot88 = -\cdot939$	$+\cdot284$	$+\cdot927$	$-\cdot281$	$-\cdot246$	$-\cdot425$	$-\cdot001$	$+1475\cdot7$	$-\ 900\cdot6$	
174	24	4 Ceti	$+15\cdot79 = -\cdot995$	$-\cdot082$	$+\cdot985$	$+\cdot081$	$-\cdot335$	$-\cdot476$	$+\cdot007$	$+1730\cdot5$	$-\ 887\cdot0$	
175	24	5 Ceti	$+14\cdot94 = -\cdot972$	$-\cdot226$	$+\cdot964$	$+\cdot224$	$-\cdot367$	$-\cdot490$	$+\cdot010$	$+1612\cdot5$	$-\ 886\cdot9$	
177	24	B.A.C. 5	$+13\cdot84 = -\cdot681$	$-\cdot731$	$+\cdot676$	$+\cdot726$	$-\cdot374$	$-\cdot440$	$+\cdot015$	$+\ 293\cdot9$	$-\ 886\cdot8$	
178	27	B.A.C. 741	$+19\cdot02 = -\cdot988$	$-\cdot031$	$+\cdot977$	$+\cdot031$	$-\cdot302$	$-\cdot476$	$+\cdot005$	$+1199\cdot8$	$-\ 886\cdot8$	
179	Dec. 17	ρ Capricorni	$+16\cdot81 = -\cdot936$	$-\cdot155$	$+\cdot935$	$+\cdot151$	$-\cdot546$	$-\cdot555$	$+\cdot011$	$+2550\cdot6$	$-\ 938\cdot5$	
180	17	Bradley 2627	$+18\cdot02 = -\cdot942$	$+\cdot110$	$+\cdot940$	$-\cdot112$	$-\cdot513$	$-\cdot537$	$+\cdot008$	$+3028\cdot3$	$-\ 938\cdot5$	
181	1888 Jan. 15	μ Capricorni	$+16\cdot97 = -\cdot951$	$-\cdot187$	$+\cdot950$	$+\cdot184$	$-\cdot531$	$-\cdot534$	$+\cdot011$	$+2424\cdot8$	$-\ 921\cdot2$	
182	27	85 Geminorum	$+\ 8\cdot84 = -\cdot360$	$+\cdot924$	$+\cdot359$	$-\cdot917$	$-\cdot256$	$-\cdot264$	$-\cdot007$	$+3090\cdot7$	$-\ 942\cdot2$	
183	28	127	$+\ 8\cdot85 = -\cdot534$	$+\cdot827$	$+\cdot526$	$-\cdot819$	$-\cdot274$	$-\cdot397$	$-\cdot009$	$+2081\cdot8$	$-\ 951\cdot5$	
186	28	121	$+\ 6\cdot52 = -\cdot277$	$+\cdot957$	$+\cdot272$	$-\cdot947$	$-\cdot186$	$-\cdot257$	$-\cdot010$	$+2539\cdot3$	$-\ 951\cdot5$	
187	28	76	$-15\cdot79 = +\cdot882$	$-\cdot372$	$-\cdot869$	$+\cdot369$	$+\cdot363$	$+\cdot560$	$+\cdot005$	$-\ 837\cdot2$	$-\ 951\cdot5$	
189	28	146	$+13\cdot28 = -\cdot905$	$+\cdot307$	$+\cdot891$	$-\cdot305$	$-\cdot364$	$-\cdot567$	$-\cdot004$	$+\ 669\cdot2$	$-\ 951\cdot6$	
191	28	143	$+\ 7\cdot38 = -\cdot861$	$+\cdot425$	$+\cdot848$	$-\cdot422$	$-\cdot358$	$-\cdot552$	$-\cdot005$	$+1012\cdot9$	$-\ 951\cdot6$	
193	28	122	$+\ 1\cdot49 = +\cdot021$	$+1\cdot000$	$-\cdot021$	$-\cdot989$	$-\cdot089$	$-\cdot084$	$-\cdot010$	$+2761\cdot6$	$-\ 951\cdot6$	
194	28	147	$+13\cdot46 = -\cdot932$	$+\cdot196$	$+\cdot918$	$-\cdot196$	$-\cdot365$	$-\cdot573$	$-\cdot003$	$+\ 396\cdot7$	$-\ 951\cdot6$	
195	28	88	$-12\cdot51 = +\cdot767$	$-\cdot590$	$-\cdot756$	$+\cdot585$	$+\cdot340$	$+\cdot513$	$+\cdot006$	$-1538\cdot4$	$-\ 951\cdot6$	
196	28	95	$-16\cdot15 = +\cdot886$	$-\cdot363$	$-\cdot873$	$+\cdot358$	$+\cdot365$	$+\cdot562$	$+\cdot003$	$-1030\cdot2$	$-\ 951\cdot7$	
198	28	158	$+11\cdot08 = -\cdot648$	$+\cdot732$	$+\cdot639$	$-\cdot724$	$-\cdot314$	$-\cdot457$	$-\cdot007$	$+2128\cdot1$	$-\ 951\cdot8$	
200	28	159	$+11\cdot68 = -\cdot610$	$+\cdot767$	$+\cdot601$	$-\cdot760$	$-\cdot305$	$-\cdot437$	$-\cdot008$	$+2237\cdot0$	$-\ 951\cdot8$	
202	28	111	$-12\cdot54 = +\cdot839$	$-\cdot471$	$-\cdot826$	$+\cdot468$	$+\cdot358$	$+\cdot544$	$+\cdot004$	$-1514\cdot6$	$-\ 951\cdot8$	
204	28	107	$-22\cdot15 = +\cdot944$	$+\cdot122$	$-\cdot930$	$-\cdot122$	$+\cdot338$	$+\cdot549$	$-\cdot002$	$+\ 101\cdot5$	$-\ 951\cdot8$	
205	28	121	$-\ 7\cdot79 = +\cdot713$	$+\cdot661$	$-\cdot702$	$-\cdot656$	$+\cdot195$	$+\cdot359$	$-\cdot007$	$+1635\cdot7$	$-\ 951\cdot8$	
207	28	113	$-\ 9\cdot19 = +\cdot901$	$+\cdot319$	$-\cdot888$	$-\cdot317$	$+\cdot300$	$+\cdot504$	$-\cdot004$	$+\ 603\cdot9$	$-\ 951\cdot8$	
209	28	127	$-12\cdot36 = +\cdot871$	$+\cdot401$	$-\cdot858$	$-\cdot399$	$+\cdot281$	$+\cdot478$	$-\cdot006$	$+\ 667\cdot9$	$-\ 951\cdot9$	
211	28	173	$+\ 9\cdot18 = -\cdot387$	$+\cdot913$	$+\cdot382$	$-\cdot904$	$-\cdot245$	$-\cdot320$	$-\cdot009$	$+2707\cdot9$	$-\ 952\cdot0$	
212	28	132	$-27\cdot91 = +\cdot792$	$+\cdot554$	$-\cdot780$	$-\cdot550$	$+\cdot234$	$+\cdot416$	$-\cdot007$	$+1058\cdot0$	$-\ 952\cdot0$	
213	28	191	$+15\cdot04 = -\cdot875$	$+\cdot393$	$+\cdot862$	$-\cdot389$	$-\cdot372$	$-\cdot558$	$-\cdot003$	$+1577\cdot4$	$-\ 952\cdot0$	
216	28	189	$+10\cdot08 = -\cdot509$	$+\cdot845$	$+\cdot503$	$-\cdot836$	$-\cdot291$	$-\cdot386$	$-\cdot008$	$+2694\cdot8$	$-\ 952\cdot1$	
218	28	179	$+\ 4\cdot19 = +\cdot043$	$+\cdot999$	$-\cdot041$	$-\cdot989$	$-\cdot103$	$-\cdot074$	$-\cdot010$	$+2680\cdot4$	$-\ 952\cdot1$	
221	28	146	$-12\cdot02 = +\cdot919$	$-\cdot258$	$-\cdot906$	$+\cdot258$	$+\cdot381$	$+\cdot572$	$+\cdot000$	$-1556\cdot5$	$-\ 952\cdot2$	
222	Mar. 9	44 Capricorni	$-13\cdot83 = +\cdot860$	$-\cdot452$	$-\cdot861$	$+\cdot449$	$+\cdot424$	$+\cdot402$	$+\cdot014$	$+1681\cdot9$	$-\ 914\cdot4$	
223	9	45 Capricorni	$-\ 8\cdot06 = +\cdot288$	$+\cdot954$	$-\cdot284$	$-\cdot953$	$+\cdot218$	$+\cdot272$	$-\cdot010$	$+2506\cdot7$	$-\ 914\cdot3$	
224	18	δ^1 Tauri	$+10\cdot57 = -\cdot873$	$+\cdot410$	$+\cdot868$	$-\cdot406$	$-\cdot317$	$-\cdot399$	$+\cdot002$	$+2932\cdot1$	$-\ 889\cdot4$	
226	25	l Leonis	$+\ 5\cdot06 = +\cdot088$	$+\cdot996$	$-\cdot085$	$-\cdot986$	$-\cdot170$	$-\cdot132$	$-\cdot013$	$+2320\cdot3$	$-\ 979\cdot0$	
227	Apr. 16	B.A.C. 1835	$+11\cdot26 = -\cdot938$	$-\cdot033$	$+\cdot931$	$+\cdot036$	$-\cdot388$	$-\cdot502$	$+\cdot008$	$+2159\cdot4$	$-\ 895\cdot5$	
228	16	Lalande 10955	$+\ 9\cdot80 = -\cdot938$	$+\cdot047$	$+\cdot930$	$-\cdot044$	$-\cdot389$	$-\cdot498$	$+\cdot007$	$+2346\cdot3$	$-\ 895\cdot5$	
229	23	B.A.C. 4104	$+12\cdot11 = -\cdot979$	$-\cdot190$	$+\cdot966$	$+\cdot187$	$-\cdot320$	$-\cdot525$	$\cdot000$	$-1309\cdot3$	$-\ 988\cdot3$	
230	July 17	ξ^2 Libræ	$+10\cdot76 = -\cdot530$	$+\cdot841$	$+\cdot524$	$-\cdot834$	$-\cdot368$	$-\cdot463$	$-\cdot009$	$+2680\cdot2$	$-\ 974\cdot2$	

170. Diminished 1 min. Sid. $-15\cdot69 = +\cdot945\Delta\alpha + \cdot116\Delta\delta - \cdot937\Delta\alpha' - \cdot113\Delta\delta' + \cdot410\Delta T + \cdot531\Delta l + \cdot006\Delta\phi' + 2538\cdot9p - 939\cdot2s.$

Digitized by Google

No.	Date.	Star.	Resulting Equation.								
			"								
232	1888 July 17	18 Libræ	+ 7·99	= −·690Δα	− ·711Δδ	+ ·688Δα′	+ ·704Δδ′	− ·243ΔT	− ·268Δl	+ ·017Δφ′	+ 717·6p − 974·4s
234	20	B.A.C. 6081	+16·38	= −·932	− ·083	+ ·923	+ ·079	− ·445	− ·593	+ ·008	+2007·9 − 975·9
236	21	ξ¹ Sagittarii	+11·05	= −·546	− ·810	+ ·538	+ ·798	− ·216	− ·349	+ ·013	− 876·9 − 971·5
237	21	ξ² Sagittarii	+ 7·91	= −·504	+ ·842	+ ·496	− ·827	− ·211	− ·323	− ·014	+ 545·0 − 971·4
238	21	ξ² Sagittarii	− 9·69	= +·512	+ ·836	− ·504	− ·821	+ ·220	+ ·328	− ·015	+ 428·2 − 971·2
239	23	19 Capricorni	−16·76	= +·913	− ·265	− ·905	+ ·260	+ ·450	+ ·574	+ ·011	+1757·3 − 954·3
240	23	21 Capricorni	−18·69	= +·821	− ·502	− ·808	+ ·496	+ ·247	+ ·433	+ ·007	− 775·7 − 952·6
242	23	θ Capricorni	−15·94	= +·945	+ ·110	− ·938	− ·104	+ ·452	+ ·570	− ·009	−2177·6 − 951·1
244	25	70 Aquarii	− 8·45	= +·715	− ·683	− ·707	+ ·673	+ ·147	+ ·264	+ ·014	+ 127·1 − 929·1
245	28	35 Ceti	−18·11	= +·967	+ ·253	− ·960	− ·251	+ ·394	+ ·502	+ ·004	+2656·4 − 897·7
246	Aug. 17	B.A.C. 6347	+ 9·89	= −·532	+ ·821	+ ·524	− ·812	− ·212	− ·346	− ·009	+1989·9 − 961·9
247	Sept. 13	15 Sagittarii	+17·99	= −·873	− ·353	+ ·860	+ ·349	− ·327	− ·527	+ ·006	− 351·8 − 960·5
249	13	21 Sagittarii	+13·29	= −·629	− ·738	+ ·631	+ ·731	− ·402	− ·370	+ ·016	+ 731·6 − 958·8
250	Oct. 9	29 Ophiuchi	+12·96	= −·786	− ·553	+ ·786	+ ·547	− ·436	− ·439	+ ·016	+1508·3 − 980·7
252	15	70 Aquarii	+16·60	= −·844	− ·506	+ ·836	+ ·499	− ·392	− ·518	+ ·012	+ 764·7 − 916·9
253	Nov. 15	ν Piscium	+15·11	= −·959	+ ·272	+ ·947	− ·269	− ·208	− ·398	− ·004	+ 387·3 − 890·1
254	Dec. 20	μ² Cancri	−16·08	= +·931	− ·057	− ·918	+ ·054	+ ·311	+ ·510	− ·001	− 488·6 − 899·0
255	1889 Jan. 8	35 Ceti	+ 9·43	= −·687	+ ·726	+ ·681	− ·719	− ·085	− ·187	− ·006	+2612·3 − 904·2
256	14	141 Tauri	+ 7·30	= −·311	− ·943	+ ·307	+ ·934	− ·147	− ·211	+ ·008	−2578·4 − 889·2
257	Feb. 5	ν Piscium	+ 8·66	= −·730	+ ·680	+ ·726	− ·676	− ·163	− ·221	− ·003	+3109·3 − 905·8
258	Mar. 10	η Geminorum	+14·38	= −·844	+ ·415	+ ·835	− ·411	− ·295	− ·437	·000	−2293·2 − 890·1
260	11	44 Geminorum	+ 7·91	= −·455	+ ·871	+ ·448	− ·864	− ·157	− ·253	− ·008	+2424·1 − 895·2
261	23	14 Sagittarii	−21·49	= +·912	− ·179	− ·900	+ ·176	+ ·396	+ ·585	+ ·007	+ 970·1 − 968·1
262	24	B.A.C. 6561	−18·40	= +·786	− ·527	− ·783	+ ·519	+ ·442	+ ·488	+ 015	+1527·5 − 963·7
263	Apr. 20	30 Sagittarii	−20·83	= +·884	+ ·289	− ·878	− ·290	+ ·485	+ ·569	+ ·005	+3150·0 − 974·8
264	20	31 Sagittarii	−15·77	= +·661	− ·698	− ·660	+ ·689	+ ·421	+ ·433	+ ·017	+ 986·3 − 974·7
265	May 11	B.A.C. 4254	+ 7·79	= −·791	− ·612	+ ·788	+ ·611	− ·249	− ·286	+ ·016	+1060·3 − 960·9
266	June 5	B.A.C. 3579	+11·35	= −·758	+ ·623	+ ·749	− ·617	− ·357	− ·488	− ·004	+2429·2 − 911·6
267	5	ι Leonis	+11·10	= −·924	− ·305	+ ·916	+ ·306	− ·305	− ·422	+ ·011	+1563·2 − 912·7
268	10	ξ¹ Libræ	+12·25	= −·601	+ ·790	+ ·594	− ·783	− ·411	− ·517	− ·007	+2754·7 − 986·2
269	14	B.A.C. 6524	−16·46	= +·918	− ·088	− ·903	+ ·087	+ ·409	+ ·627	+ ·003	+ 277·8 − 999·7
270	22	B.A.C. 741	−19·91	= +·989	− ·009	− ·979	+ ·009	+ ·320	+ ·470	+ ·006	+1766·4 − 897·5
271	July 19	64 Ceti	−19·27	= +·903	+ ·413	− ·891	− ·408	+ ·331	+ ·514	− ·005	+ 857·0 − 906·6
272	Aug. 8	B.A.C. 6485	+ 6·97	= −·424	+ ·888	+ ·424	− ·875	− ·287	− ·286	− ·018	− 101·1 − 990·4
273	8	B.A.C. 6524	+16·16	= −·906	− ·181	+ ·892	+ ·182	− ·400	− ·609	·000	−1103·4 − 990·7
274	Sept. 4	ν² Sagittarii	+ 8·05	= −·422	+ ·889	+ ·417	− ·888	− ·199	− ·274	− ·007	+2971·7 − 976·3
275	30	B.A.C. 5866	+15·02	= −·922	− ·123	+ ·912	+ ·119	− ·406	− ·567	+ ·008	+1716·7 − 968·8
276	Oct. 10	38 Arietis	−20·30	= +·907	− ·382	− ·894	+ ·377	+ ·198	+ ·386	+ ·005	− 681·4 − 914·5
277	Nov. 6	B.A.C. 755	+16·37	= −·900	− ·409	+ ·876	+ ·403	− ·350	− ·528	+ ·004	−1257·4 − 913·9
278	29	74 Aquarii	+17·74	= −·791	− ·585	+ ·782	+ ·577	− ·418	− ·548	+ ·013	+ 452·9 − 952·3
279	Dec. 1	15 Ceti	+ 3·71	= +·156	− ·988	− ·155	+ ·981	− ·155	− ·137	+ ·013	−2227·0 − 928·8
280	29	33 Ceti	+12·73	= −·908	+ ·419	+ ·898	− ·415	− ·214	− ·358	·000	+2424·9 − 928·5
281	31	38 Arietis	+11·88	= −·453	− ·887	+ ·447	+ ·877	− ·290	− ·388	+ ·011	−1892·9 − 906·7
282	1890 Feb. 12	θ Libræ	−17·17	= +·630	− ·753	− ·626	+ ·743	+ ·423	+ ·485	+ ·016	+ 429·8 − 954·3
283	Mar. 14	B.A.C. 6343	−18·98	= +·810	− ·462	− ·803	+ ·454	+ ·418	+ ·534	+ ·013	+1320·6 − 970·4
284	Apr. 7	o² Libræ	−15·94	= +·719	− ·667	− ·708	+ ·657	+ ·369	+ ·526	+ ·011	− 779·8 − 949·9
285	15	ψ³ Aquarii	−19·34	= +·956	+ ·233	− ·953	− ·234	+ ·538	+ ·582	+ ·006	+3254·4 − 965·6
286	28	η Leonis	+11·01	= −·601	+ ·778	+ ·597	− ·772	− ·355	− ·419	− ·005	+2946·8 − 893·8
287	May 9	B.A.C. 6864	−18·36	= +·729	− ·605	− ·732	+ ·599	+ ·479	+ ·431	+ ·016	+1286·6 − 974·1
288	30	B.A.C. 4572	+15·04	= −·783	+ ·618	+ ·772	− ·609	− ·372	− ·536	− ·010	+ 880·8 − 936·8

Digitized by Google

No.	Date.	Star.	Resulting Equation.									
			"									
289	1890 June 4	24 Sagittarii	−17·18	= +·910Δα	+ ·043Δδ	−·901Δα′	−·045Δδ′	+·489ΔT	+·614Δl	+·007Δφ′	+2558·0p	− 988·18
290	5	53 Sagittarii	−17·41	= +·750	− ·569	−·749	+·561	+·461	+·479	+·016	+1520·7	− 988·3
291	5	B.A.C. 6727	−16·43	= +·746	− ·576	−·744	+·567	+·454	+·476	+·016	+1491·4	− 988·3
292	6	17 Capricorni	−20·38	= +·871	+ ·341	−·863	−·341	+·494	+·602	+·003	+3066·1	− 984·6
293	July 21	ω Virginis	+14·11	= −·792	+ ·600	+·789	−·597	−·452	−·486	−·001	+3215·3	− 891·8
294	Aug. 26	B.A.C. 6576	+17·05	= −·851	− ·351	+·838	+·350	−·375	−·578	+·003	−1183·3	− 985·4
295	Sept. 1	*f* Piscium	−19·28	= +·716	+ ·697	−·710	−·690	+·460	+·561	−·005	+2989·5	− 972·3
296	30	31 Arietis	−17·74	= +·977	+ ·091	−·970	−·089	+·448	+·552	+·007	+2704·7	− 957·3
297	Oct. 2	B.A.C. 1373	+ 0·89	= +·213	− ·974	−·207	+·971	−·100	−·015	+·012	−1753·2	− 927·5
298	2	B.A.C. 1373	− 6·78	= +·616	− ·753	−·608	+·752	+·111	+·241	+·013	− 354·8	− 927·4
299	24	B.A.C. 8214	+ 5·62	= +·117	− ·993	−·115	+·978	−·205	−·175	+·015	−1592·5	− 976·7
300	Nov. 17	B.A.C. 7049	+17·58	= −·737	− ·596	+·736	+·588	−·513	−·528	+·016	+1382·5	− 968·6
301	20	ψ^3 Aquarii	+19·36	= −·845	− ·510	+·833	+·503	−·407	−·582	+·010	− 76·3	− 966·5
302	Dec. 1	79 Cancri	− 3·90	= +·041	− ·999	−·037	+·997	+·069	+·138	+·011	−2097·6	− 888·8
303	23	53 Tauri	+ 9·17	= −·690	+ ·677	+·682	−·671	−·162	−·284	−·004	+2599·1	− 923·3
304	1891 Feb. 20	λ Cancri	+12·52	= −·621	+ ·735	+·613	−·729	−·272	−·394	−·005	+2341·5	− 888·2
305	21	B.A.C. 3138	+14·48	= −·822	+ ·474	+·812	−·469	−·332	−·481	−·002	+2101·1	− 884·5
306	Mar. 15	56 Tauri	+ 7·75	= −·605	+ ·762	+·600	−·756	−·169	−·238	−·004	+3138·9	− 939·3
307	19	ω^1 Cancri	+ 3·41	= −·322	− ·935	+·319	+·927	−·063	−·115	+·007	−2806·2	− 893·0
308	19	ω^2 Cancri	+15·37	= −·879	+ ·255	+·866	−·256	−·304	−·497	−·004	+ 259·1	− 893·0
309	May 4	B.A.C. 81	−20·88	= +·913	+ ·405	−·907	−·402	+·513	+·607	+·002	+3222·9	− 981·8
310	14	ξ Cancri	+16·41	= −·805	+ ·499	+·795	−·495	−·334	−·485	−·002	+2124·4	− 895·4
311	14	79 Cancri	+14·53	= −·896	+ ·263	+·886	−·260	−·345	−·503	+·002	−1971·3	− 895·2
312	28	φ Capricorni	−18·18	= +·846	− ·413	−·845	+·407	+·430	+·452	+·014	+1947·9	− 965·0
313	July 18	B.A.C. 5831	+18·60	= −·874	+ ·289	+·866	−·279	−·441	−·560	−·011	−1750·6	− 945·8
314	18	Piazzi XVII. 31	+ 9·28	= −·369	+ ·914	+·369	−·900	−·305	−·315	−·017	+ 12·0	− 945·9
315	18	39 Ophiuchi	+ 8·99	= −·358	+ ·920	+·357	−·906	−·300	−·309	−·017	+ 42·4	− 946·0
316	22	ε Capricorni	−14·26	= +·392	+ ·909	−·384	−·896	+·298	+·410	−·013	+1486·1	− 988·1
317	Aug. 14	22 Ophiuchi	+19·06	= −·830	+ ·428	+·817	−·419	−·347	−·531	−·008	+ 8·7	− 931·9
318	18	χ Capricorni	+20·46	= −·886	− ·297	+·872	+·295	−·410	−·619	+·003	− 996·7	− 990·5
319	20	ψ^1 Aquarii	−17·75	= +·941	− ·294	−·931	+·294	+·325	+·474	−·003	−2675·0	−1000·3
320	20	ψ^2 Aquarii	−18·18	= +·467	+ ·880	−·465	−·871	+·478	+·502	−·018	+ 277·1	−1000·3
321	24	σ Arietis	− 7·04	= −·124	+ ·992	+·120	−·984	+·205	+·151	−·013	+2251·8	− 965·5
322	Oct. 12	φ Capricorni	+16·45	= −·569	− ·791	+·564	+·779	−·398	−·476	+·016	+ 220·8	− 969·6
323	14	ψ^1 Aquarii	+11·96	= −·278	− ·959	+·278	+·950	−·406	−·409	+·017	− 924·6	− 994·3
324	14	ψ^2 Aquarii	+17·99	= −·979	+ ·106	+·973	−·107	−·448	−·535	+·007	+2971·0	− 994·5
325	Nov. 6	σ Sagittarii	+18·48	= −·862	+ ·262	+·854	+·256	−·398	−·528	+·010	+1640·7	− 930·8
327	6	σ Sagittarii	−17·77	= +·885	+ ·136	−·879	−·126	+·452	+·542	−·010	−2310·8	− 931·3
329	15	42	+19·01	= −·692	− ·685	+·681	+·678	−·395	−·560	+·009	−1367·0	− 982·6
330	15	40	+15·66	= −·372	− ·920	+·365	+·911	−·315	−·416	+·011	−2280·3	− 982·6
334	15	25	−24·24	= +·937	+ ·164	−·923	−·166	+·391	+·600	−·005	− 473·9	− 982·5
337	15	31	−12·38	= +·435	+ ·889	−·428	−·881	+·333	+·447	−·011	+2031·8	− 982·5
338	15	50	+34·39	= −·795	− ·546	+·783	+·542	−·409	−·594	+·009	− 530·2	− 982·4
340	15	34	−15·15	= +·846	− ·453	−·835	+·446	+·259	+·418	−·001	−2446·5	− 982·3
343	15	54	+18·90	= −·689	− ·688	+·678	+·683	−·398	−·558	+·011	− 923·9	− 982·3
345	15	60	+17·01	= −·915	− ·266	+·902	+·264	−·414	−·608	+·007	+ 644·6	− 982·3
346	15	38	−13·60	= +·834	− ·476	−·824	+·475	+·259	+·407	+·001	−2623·0	− 982·3
349	15	40	−22·09	= +·919	− ·248	−·908	+·242	+·336	+·505	−·002	−2181·3	− 982·2
351	15	42	−18·68	= +·940	+ ·135	−·928	−·138	+·413	+·596	−·007	−1287·8	− 982·2
354	15	46	−19·94	= +·740	+ ·626	−·729	−·624	+·412	+·576	−·012	+ 265·3	− 982·1

Digitized by Google

No.	Date.	Star.	Resulting Equation.								
			$''$								
357	1891 Nov. 19	υ Geminorum	$-17\cdot16 = +\cdot737\Delta\alpha$	$-\cdot570\Delta\delta$	$-\cdot727\Delta\alpha'$	$+\cdot563\Delta\delta'$	$+\cdot313\Delta T$	$+\cdot476\Delta l$	$+\cdot004\Delta\phi'$	$-1916\cdot3p$	$-929\cdot4s$
358	1892 Jan. 4	ψ Aquarii	$+22\cdot44 = +\cdot860$	$-\cdot485$	$+\cdot859$	$+\cdot482$	$-\cdot575$	$-\cdot589$	$+\cdot015$	$+1647\cdot6$	$-968\cdot9$
359	Feb. 23	σ Sagittarii	$-16\cdot12 = +\cdot881$	$+\cdot151$	$-\cdot882$	$-\cdot155$	$+\cdot561$	$+\cdot551$	$+\cdot007$	$+3098\cdot8$	$-940\cdot2$
360	May 13	26 Ophiuchi	$-13\cdot68 = +\cdot818$	$+\cdot432$	$-\cdot809$	$-\cdot430$	$+\cdot279$	$+\cdot408$	$+\cdot001$	$+2496\cdot7$	$-899\cdot3$
361	July 4	α Libræ	$+16\cdot21 = -\cdot958$	$+\cdot085$	$+\cdot950$	$-\cdot086$	$-\cdot344$	$-\cdot475$	$+\cdot005$	$+2161\cdot0$	$-889\cdot9$
362	6	C.G.A. 22239	$+14\cdot51 = -\cdot607$	$+\cdot751$	$+\cdot600$	$-\cdot738$	$-\cdot320$	$-\cdot424$	$-\cdot014$	$-126\cdot9$	$-900\cdot3$
363	6	ρ Ophiuchi (N. *)	$+16\cdot92 = -\cdot690$	$+\cdot660$	$+\cdot682$	$-\cdot648$	$-\cdot332$	$-\cdot457$	$-\cdot013$	$-247\cdot8$	$-900\cdot3$
364	6	ρ Ophiuchi (S. *)	$+16\cdot29 = -\cdot688$	$+\cdot663$	$+\cdot680$	$-\cdot650$	$-\cdot332$	$-\cdot456$	$-\cdot013$	$-243\cdot5$	$-900\cdot3$
365	7	B.A.C. 5909	$+9\cdot94 = -\cdot359$	$+\cdot916$	$+\cdot353$	$-\cdot913$	$-\cdot173$	$-\cdot269$	$-\cdot008$	$+2396\cdot6$	$-911\cdot1$
366	11	χ Capricorni	$-5\cdot67 = +\cdot502$	$-\cdot840$	$-\cdot507$	$+\cdot834$	$+\cdot226$	$+\cdot162$	$+\cdot016$	$+89\cdot6$	$-944\cdot3$
367	Aug. 3	B.A.C. 5709	$+4\cdot22 = -\cdot501$	$-\cdot833$	$+\cdot495$	$+\cdot819$	$-\cdot111$	$-\cdot200$	$+\cdot014$	$-55\cdot6$	$-904\cdot6$
368	Sept. 6	ψ^1 Aquarii	$+19\cdot70 = -\cdot844$	$-\cdot514$	$+\cdot835$	$+\cdot511$	$-\cdot466$	$-\cdot604$	$+\cdot002$	$-2741\cdot3$	$-980\cdot0$
369	11	33 Tauri	$-14\cdot11 = +\cdot767$	$-\cdot563$	$-\cdot755$	$+\cdot561$	$+\cdot202$	$+\cdot372$	$+\cdot011$	$-9\cdot5$	$-973\cdot6$
370	Oct. 25	C.Z. XVII.2867	$+13\cdot06 = -\cdot757$	$-\cdot523$	$+\cdot752$	$+\cdot514$	$-\cdot342$	$-\cdot404$	$+\cdot013$	$+1416\cdot6$	$-893\cdot5$
371	25	B.A.C. 6024	$+12\cdot96 = -\cdot754$	$-\cdot527$	$+\cdot750$	$+\cdot519$	$-\cdot344$	$-\cdot402$	$+\cdot014$	$+1416\cdot8$	$-893\cdot5$
372	Dec. 12	46 Virginis	$-17\cdot72 = +\cdot763$	$-\cdot645$	$-\cdot759$	$+\cdot641$	$+\cdot424$	$+\cdot486$	$+\cdot015$	$+722\cdot4$	$-890\cdot8$
373	1893 Jan. 8	γ Virginis	$-6\cdot80 = +\cdot836$	$+\cdot548$	$-\cdot833$	$-\cdot546$	$+\cdot194$	$+\cdot247$	$\cdot000$	$+3182\cdot7$	$-901\cdot2$
374	Mar. 25	ι Geminorum	$+19\cdot13 = -\cdot816$	$+\cdot395$	$+\cdot808$	$-\cdot396$	$-\cdot432$	$-\cdot548$	$+\cdot002$	$+2891\cdot1$	$-954\cdot0$
375	Apr. 23	79 Cancri	$+17\cdot30 = -\cdot722$	$+\cdot627$	$+\cdot721$	$-\cdot623$	$-\cdot493$	$-\cdot520$	$-\cdot001$	$+3420\cdot0$	$-941\cdot8$
376	May 8	ϵ Capricorni	$-16\cdot58 = +\cdot626$	$+\cdot746$	$-\cdot617$	$-\cdot740$	$+\cdot344$	$+\cdot467$	$-\cdot006$	$+2377\cdot9$	$-918\cdot8$
377	28	ι^1 Libræ	$+16\cdot54 = -\cdot755$	$+\cdot599$	$+\cdot744$	$-\cdot592$	$-\cdot321$	$-\cdot475$	$-\cdot005$	$+1674\cdot1$	$-884\cdot1$
378	June 24	B.A.C. 4896	$+15\cdot06 = -\cdot607$	$+\cdot772$	$+\cdot601$	$-\cdot759$	$-\cdot343$	$-\cdot436$	$-\cdot014$	$+21\cdot1$	$-886\cdot8$
379	July 1	χ Capricorni	$-18\cdot36 = +\cdot910$	$+\cdot199$	$-\cdot898$	$-\cdot193$	$+\cdot325$	$+\cdot514$	$-\cdot005$	$-463\cdot8$	$-905\cdot5$
380	6	ζ^1 Piscium	$-22\cdot03 = +\cdot722$	$+\cdot686$	$-\cdot713$	$-\cdot678$	$+\cdot410$	$+\cdot552$	$-\cdot007$	$+2205\cdot4$	$-956\cdot3$
381	Aug. 2	B.A.C. 274	$-19\cdot29 = +\cdot994$	$-\cdot067$	$-\cdot980$	$+\cdot066$	$+\cdot274$	$+\cdot482$	$-\cdot001$	$-595\cdot5$	$-948\cdot6$
382	21	3 Sagittarii	$+15\cdot36 = -\cdot871$	$-\cdot159$	$+\cdot863$	$+\cdot155$	$-\cdot356$	$-\cdot483$	$+\cdot008$	$+1795\cdot7$	$-888\cdot7$
383	Sept. 3	β Tauri	$+6\cdot79 = -\cdot134$	$-\cdot989$	$+\cdot130$	$+\cdot986$	$-\cdot230$	$-\cdot160$	$+\cdot009$	$-2823\cdot2$	$-970\cdot2$
385	23	70 Aquarii	$+14\cdot65 = -\cdot633$	$-\cdot763$	$+\cdot629$	$+\cdot754$	$-\cdot445$	$-\cdot508$	$+\cdot016$	$+255\cdot2$	$-936\cdot5$
386	Oct. 20	50 Aquarii	$+17\cdot08 = -\cdot797$	$-\cdot567$	$+\cdot791$	$+\cdot559$	$-\cdot435$	$-\cdot531$	$+\cdot014$	$+911\cdot6$	$-926\cdot0$
387	26	23 Tauri	$-11\cdot75 = +\cdot218$	$+\cdot972$	$-\cdot212$	$-\cdot966$	$+\cdot223$	$+\cdot316$	$-\cdot012$	$+2253\cdot1$	$-990\cdot3$
389	26	20 Tauri	$-16\cdot66 = +\cdot821$	$-\cdot450$	$-\cdot813$	$+\cdot442$	$+\cdot328$	$+\cdot447$	$-\cdot001$	$-3039\cdot6$	$-990\cdot3$
391	26	η Tauri	$-29\cdot95 = +\cdot599$	$+\cdot758$	$-\cdot590$	$-\cdot760$	$+\cdot392$	$+\cdot523$	$-\cdot013$	$-427\cdot2$	$-990\cdot4$
392	Nov. 19	44 Piscium	$+18\cdot08 = -\cdot960$	$-\cdot281$	$+\cdot947$	$+\cdot277$	$-\cdot358$	$-\cdot558$	$+\cdot006$	$-18\cdot9$	$-953\cdot2$
393	24	β Tauri	$+23\cdot66 = -\cdot871$	$+\cdot179$	$+\cdot857$	$-\cdot179$	$-\cdot392$	$-\cdot606$	$\cdot000$	$+998\cdot4$	$-1001\cdot8$
396	24	β Tauri	$-22\cdot01 = +\cdot832$	$+\cdot341$	$-\cdot819$	$-\cdot344$	$+\cdot411$	$+\cdot614$	$-\cdot007$	$-235\cdot4$	$-1001\cdot7$
398	Dec. 20	9 Tauri	$+13\cdot26 = -\cdot810$	$+\cdot485$	$+\cdot797$	$-\cdot483$	$-\cdot224$	$-\cdot421$	$-\cdot007$	$+811\cdot4$	$-992\cdot0$
399	20	17 Tauri	$+20\cdot44 = -\cdot901$	$-\cdot206$	$+\cdot891$	$+\cdot208$	$-\cdot468$	$-\cdot620$	$+\cdot010$	$+1749\cdot7$	$-994\cdot1$
401	20	16 Tauri	$+17\cdot50 = -\cdot575$	$-\cdot781$	$+\cdot566$	$+\cdot780$	$-\cdot375$	$-\cdot514$	$+\cdot014$	$-509\cdot7$	$-994\cdot2$
404	20	20 Tauri	$+16\cdot62 = -\cdot475$	$-\cdot856$	$+\cdot467$	$+\cdot857$	$-\cdot340$	$-\cdot462$	$+\cdot014$	$-730\cdot9$	$-994\cdot4$
406	20	23 Tauri	$+9\cdot34 = -\cdot629$	$+\cdot729$	$+\cdot628$	$-\cdot725$	$-\cdot268$	$-\cdot278$	$-\cdot003$	$+3603\cdot9$	$-994\cdot5$
408	1894 Jan. 18	β Tauri	$+21\cdot13 = -\cdot868$	$+\cdot190$	$+\cdot860$	$-\cdot186$	$-\cdot474$	$-\cdot597$	$+\cdot006$	$+2800\cdot2$	$-994\cdot1$
409	Feb. 28	B.A.C. 6063	$-16\cdot46 = +\cdot736$	$-\cdot548$	$-\cdot734$	$+\cdot539$	$+\cdot406$	$+\cdot423$	$+\cdot014$	$+1492\cdot5$	$-886\cdot3$
410	Mar. 14	B.A.C. 1772	$+26\cdot56 = -\cdot858$	$+\cdot221$	$+\cdot846$	$-\cdot219$	$-\cdot371$	$-\cdot562$	$+\cdot001$	$+1605\cdot4$	$-968\cdot0$
411	16	ϕ Geminorum	$+21\cdot75 = -\cdot767$	$+\cdot518$	$+\cdot757$	$-\cdot513$	$-\cdot417$	$-\cdot561$	$-\cdot001$	$+2638\cdot7$	$-973\cdot1$
412	31	χ Capricorni	$-8\cdot00 = +\cdot259$	$+\cdot960$	$-\cdot254$	$-\cdot957$	$+\cdot215$	$+\cdot292$	$-\cdot010$	$+2276\cdot2$	$-896\cdot0$
413	Apr. 24	B.A.C. 6120	$-14\cdot79 = +\cdot847$	$+\cdot263$	$-\cdot840$	$-\cdot265$	$+\cdot372$	$+\cdot477$	$+\cdot004$	$+2623\cdot1$	$-889\cdot1$
414	24	B.A.C. 6127	$-13\cdot55 = +\cdot803$	$+\cdot404$	$-\cdot794$	$-\cdot402$	$+\cdot314$	$+\cdot451$	$+\cdot001$	$+2342\cdot0$	$-889\cdot0$
415	25	τ Sagittarii	$-14\cdot97 = +\cdot877$	$-\cdot118$	$-\cdot865$	$+\cdot116$	$+\cdot308$	$+\cdot480$	$+\cdot005$	$+1054\cdot8$	$-886\cdot7$
416	29	50 Aquarii	$-11\cdot05 = +\cdot326$	$+\cdot942$	$-\cdot322$	$-\cdot940$	$+\cdot312$	$+\cdot362$	$-\cdot009$	$+2581\cdot0$	$-905\cdot5$
417	29	Bradley 2961	$-2\cdot83 = +\cdot038$	$+\cdot999$	$-\cdot036$	$-\cdot987$	$+\cdot199$	$+\cdot233$	$-\cdot014$	$+1348\cdot3$	$-906\cdot9$

Digitized by Google

No.	Date.	Star.	Resulting Equation.									
			w									
418	1894 May 2	B.A.C. 221	−13·98	= +·426	Δα + ·904	Δδ	−·425Δα′	−·901Δδ′	+·442ΔT	+·452Δl	−·009Δφ′	+2970·1μ − 944·1ε
419	21	B.A.C. 6063	− 8·25	= +·417	− ·881		−·409	+·873	+·126	+·250	+·010	−1440·1 − 888·4
420	July 15	B.A.C. 6120	+10·59	= −·675	+ ·641		+·673	−·628	−·345	−·384	−·014	−1169·6 − 885·2
421	15	B.A.C. 6127	+ 9·65	= −·564	+ ·767		+·561	−·754	−·277	−·322	−·015	− 692·5 − 885·1
422	Aug. 4	β Virginis	+19·46	= −·587	+ ·809		+·582	−·801	−·453	−·534	−·007	+2927·5 − 970·2
423	Sept. 21	B.A.C. 1772	−12·13	= +·444	+ ·863		−·440	−·857	+·255	+·323	−·005	+3159·0 − 961·5
424	Dec. 2	η Capricorni	+15·96	= −·751	− ·596		+·751	+·589	−·469	−·472	+·015	+1239·1 − 885·3
425	1895 Jan. 1	82 Aquarii	+ 9·26	= −·940	− ·317		+·934	+·313	−·391	−·490	+·011	+1620·0 − 889·0
426	20	α Scorpii	+13·90	= −·449	+ ·865		+·454	−·857	−·404	−·340	−·015	− 85·7 − 905·2
429	20	α Scorpii	−15·56	= +·866	+ ·253		−·860	−·255	+·381	+·464	+·005	+2850·7 − 904·9
431	Feb. 6	53 Aurigæ	+16·93	= −·777	+ ·469		+·764	−·469	−·360	−·560	−·006	+ 887·2 − 986·2
432	6	28 Geminorum	+15·63	= −·793	− ·438		+·780	+·438	−·338	−·524	+·009	+ 316·0 − 988·0
433	13	α Virginis	+ 8·91	= +·032	+ ·999		−·029	−·998	−·283	−·244	−·014	+2007·2 − 962·8
434	13	α Virginis	−11·08	= +·865	+ ·473		−·862	−·473	+·293	+·335	+·002	+3440·1 − 962·5
436	18	B.A.C. 6120	−18·62	= +·874	− ·088		−·868	+·084	+·406	+·500	+·009	+2249·8 − 894·9
437	18	B.A.C. 6127	−18·52	= +·874	+ ·088		−·865	−·090	+·363	+·501	+·005	+2090·3 − 894·6
438	Apr. 3	ω^1 Cancri	+ 8·89	= −·025	+ ·999		+·028	−·993	−·208	−·160	−·009	+2870·6 − 969·6
439	May 6	B.A.C. 4394	+ 8·10	= −·784	− ·608		+·773	+·601	−·089	−·253	+·007	−1852·2 − 966·6
440	July 30	B.A.C. 5314	+18·57	= −·786	+ ·488		+·778	−·487	−·393	−·516	·000	+2707·3 − 925·9
441	Nov. 5	B.A.C. 1772	−23·90	= +·853	− ·251		−·840	+·246	+·332	+·530	+·001	− 983·8 − 934·5

Occultations of Planets observed at the Royal Observatory, Cape of Good Hope, 1881–1895.

Date.	Planet.	Phase.	Instrument.	Observ.	Chron.	Cape Sid. Time.	Greenwich Mean Time.	Remarks.
						h m s	h m s	
1886 Apr. 29	Venus S. Cusp.	D.B.	3 inch	G.	M	18 56 29·9	15 10 37·3	Error of 1m in comparison of chron.
29	„ S. „	D.B.	7 inch	F.	M	56 25·8	10 33·2	Good; the difference in colour enabling observer to follow the last trace of Venus on to Moon's limb.
29	„ N. „	D.B.	„	F.	M	56 30·8	10 38·2	
29	„ II. Limb.	D.B.	„	F.	M	57 5·2	11 12·5	
29	„ S. Cusp.	R.D.	3 inch	G.	M	20 15 40·2	16 29 34·7	Sharp.
29	„ N. „	R.D.	7 inch	F.	M	15 38·7	29 33·1	
29	„ S. „	R.D.	„	F.	M	15 54·8	29 49·2	
29	„ II. Limb.	R.D.	„	F.	M	16 21·4	30 15·7	
1886 June 9	Jupiter II. Limb.	D.D.	„	F.	S	17 23 8·2	10 56 18·6	Poor; through cloud.

Digitized by Google

Digitized by Google

OFFICIAL COPY.

ANNALS OF THE ROYAL OBSERVATORY,
CAPE OF GOOD HOPE.

VOL. II. PART IV.

MICROMETRICAL MEASUREMENTS

OF

DOUBLE STARS.

1849 — 1868

AND

1899 — 1903.

PUBLISHED UNDER THE DIRECTION OF

SIR DAVID GILL, K.C.B., LL.D., D.Sc., F.R.S.,
HIS MAJESTY'S ASTRONOMER AT THE CAPE OF GOOD HOPE.

EDINBURGH:
PRINTED FOR HIS MAJESTY'S STATIONERY OFFICE
BY NEILL & CO., LIMITED, BELLEVUE.

And to be purchased, either directly or through any Bookseller, from
WYMAN & SONS, LIMITED, FETTER LANE, E.C ; or
OLIVER & BOYD, EDINBURGH ; or
E. PONSONBY, 116 GRAFTON STREET, DUBLIN.

1905.

[*All Rights Reserved.*]

Price Two Shillings and Sixpence.

500—Wt. 27047/416—4/05—N. & Co.

Digitized by Google

Digitized by Google

PREFACE.

For many years the observation of double stars formed no part of the regular work of the Royal Observatory at the Cape.

Fallows and Henderson had far too limited a staff to undertake work beyond meridian observations with the Transit Instrument and Mural Circle, and indeed were unable to keep up the systematic reduction of the observations which they accumulated with these instruments.

Maclear was more or less in a similar position; for, superadded to his necessary meridian work, he had undertaken the field survey of his Arc of Meridian and its subsequent reduction. However, with the strong support of Sir John Herschel, he applied for and obtained a fine 7-inch equatorial by Merz, which appears to have been brought into use in 1849; and, whilst he chiefly devoted it to the observation of comets, he made, in the years 1849–68, a fine series of observations on α Centauri as a double star, on one hundred and ninety-six nights, which, however, he did not publish. I placed these observations at the disposal of Dr Elkin for his Inaugural Dissertation, "Ueber die Parallaxe von α Centauri" (Strassburg, 1880), and they are in part published in that work. Beyond these, the Observatory records contain only observations on fifty-eight nights of twelve other double stars by Maclear or his assistants.

Under Stone's directorate (1869–79), and in accordance with the instructions given to him, the whole force of the staff was devoted to overtaking arrears of reduction and publication of the meridian observations—(the *Cape Catalogues* for 1840 and 1860)—and the observations for and preparation of the *Cape Catalogue* for 1880.

Thus at the Cape Observatory, as has always been the case elsewhere, the subject of double star measurement on any great scale waited for the proper man to undertake it. There is no instance, so far as I know, of a long and valuable series of double star discovery and observation made by a mere assistant acting under orders. It is a special faculty, an inborn capacity, a delight in the exercise of exceptional acuteness of eyesight and natural dexterity, coupled with the gift of imagination as to the true meaning of what he observes, that imparts to the observer the requisite enthusiasm for double star observing. No amount of training or direction could have created the Struves, a Dawes, a Dembowski or a Burnham. The great double star observer is born, not made, and I believe that no extensive series of double star discovery and measurement will ever emanate from a regular observatory through successive directorates

Digitized by Google

unless men are specially selected who have previously distinguished themselves in that field of work and who were originally driven to it from sheer compulsion of inborn taste.

I confess, for my own part, that I have not that capacity. Although until lately I had excellent eyesight, I seldom could detect the closest double stars which seemed evident as such to expert double star observers using the same telescope on the same night, nor could I pretend to measure the distances between two intermixed discs which a select few succeed in doing with closely accordant results; and yet, with small or large meridian instruments, or with a heliometer, I could always make observations as good as those of most of my contemporaries and perhaps better than some of the double star observers.

Mr Innes, the author of the following pages, has already given evidence of his special interest in double star work by the publication of his Reference Catalogue of Southern Double Stars which forms Part II. of the present volume, and his discovery of over two hundred and eighty double stars which appear in that Catalogue testifies to capacity and enthusiasm for research of that kind.

The present work contains chiefly the results of observations made by him with the Repsold Micrometer attached to the 18-inch telescope of the Victoria Equatorial, which was presented by Mr Frank M^{c}Clean to the Cape Observatory and brought into work in 1899.

During 1900 Mr Lunt shared the observation of double stars with Mr Innes, but after that date the whole of Mr Lunt's time was devoted to spectroscopic work.

In 1901 and 1902 the instrument was only available for double star work in the early evening and morning twilight, during daylight, on Sunday nights, or on the few other occasions when it was not employed in spectroscopic research.

The work contains more than 2000 observations, of which over 1500 were made by Mr Innes, 245 by Mr Lunt, 254 under Sir Thomas Maclear, and a few of α Centauri by myself. The whole have been collected, reduced, and prepared for press by Mr Innes.

Mr Innes's services at the Cape Observatory terminated on 31st March 1903 when he entered on his duties as Director of the Transvaal Observatory.

It is to be hoped that means will be found to provide the new Observatory at Johannesburg with a powerful Equatorial specially adapted for the discovery and measurement of double stars. The site is one of the best in the world for such a purpose, and its present director has given ample proof that in his hands it would be energetically and skilfully employed for the advancement of this interesting branch of astronomy.

DAVID GILL.

Royal Observatory, Cape of Good Hope,
25th January 1904.

Digitized by Google

INTRODUCTION

BY

Mr R. T. A. INNES.

The micrometrical measures of double stars made at the Cape Observatory and collected in the following catalogue comprise those made with the 6·9-inch Merz refractor between 1849 and 1868 and those made with the 18-inch McClean refractor between 1899 and and the present date, March 1903.

In the first series (1849–1868) the observations were made with the micrometer belonging to the 6·9-inch telescope. This micrometer is of the Fraunhofer pattern. A description of it is given by Sir David Gill in his article "Micrometer" in the ninth edition of the *Encyclopædia Britannica*, vol. xvi. p. 245. No investigation of the screw errors of this instrument appears to have been made; they are certainly very small and must be far less than the errors of observation. The zero of the position circle was determined from time to time, generally every few months, but sometimes more frequently. Each measure consisted as a rule of ten settings for position angle, and five double distances, but on some nights over twenty position angles and ten double distances were taken. The measures were entered on forms of which the Table given on the next page is an example:—

In both this and the next series, each set of measures given in the catalogue represents one night's observations by one observer. Thus if two observers measured the same star on the same night, the observations are given separately, and in taking means are counted as two nights.

In the second series, the micrometer used is by the Repsolds. It was originally made for the 6·9-inch refractor, but later on was adapted to the 18-inch refractor. It is figured and described in the *Encyclopædia Britannica* (ninth edition, vol. xvi. pp. 246–247). The illumination is described on p. 249, figure 21, except that the prism P has been replaced by an electric lamp and the screen C removed. In practical use, this micrometer is well-nigh perfect. The illumination of the wires is well under

Digitized by Google

Form of Registry of the Micrometric Measures of Double Stars,
Royal Observatory, Cape of Good Hope.

(*In use 1849–1868.*)

Number for Reference.	N.P.D.	Declin.	Right Ascension.
No. 130.			
Instrument used.	**Date.**		**Star's Name.**
8½ feet Equatorial.	1852 Aug. 7 = 1852 ·600 (dec. of year.)		α Centauri.
Diagram.	**Quadrant.**		**Magnitude.** **Colours.**
			A = B = C = D =
face to *E* Telescope West	Microm. reads		

Position.

Power.	°	′	W
464	238	40	
	8	30	
	8	40	
	8	40	
	8	45	
	9	20	
	9	50	
	9	55	
	9	40	
	9	20	
	91	·20	
Mean	239	8·0	
Z =	24		
=	263	38	
=	263·633		

from *n* in direction *nfsp.*

Distance.

N.B. The + and − readings to be taken alternately.

Power.		Rev.	Pts.	dec.	ω
464	+	30	·392		
			384		
	+		380		
			389		
	+		388		
			390		
	+		385		
			382		
	+		385		
			396		
	−	30	·788		
			778		
	−		775		
			773		
	−		778		
			778		
	−		778		
			780		
	−		772		
			783		
Mean	+	30	·3871		
	−	30	·7783		
Div. by 2			·3912		
Parts =			·1956		
Seconds =			5·099		

N.B. When only positive readings are taken, a zero must be used, and the div. by 2 omitted.

Remarks.

Very cold.
Clear sky.
After rain.

Sky clear.
Wind S.
Steadiness, steady.
Definition of star, excellent.
Dist. from Merid. 1h east.
General judgment of Observer. { Pos. good. Dist. good.
Observer, T.M.

Zeros of Position and Distance.

Star runs along the thread at }
∴ Zero for position Z =

	+	−
Threads close at		
Mean	+	−

∴ Zero for Dist. Z =

To be used only in case opposite readings are not taken.

Determination of Place.

	h	m	s
Clock (or Clock + 24h)	+		
Hour Circle, + if East, — West; if read on to 24h, always —			
Instrumental Correction			
True R.A.			

	°	′	″
Declination Circle + North, − South			
Instrumental Correction			
True Declination			

Digitized by Google

control by means of an iris diaphragm, the readings of the position angles and screw head are easy. No extraneous lamp is required. Except for a short period, when a red glass was tried, white light has been used. The number of settings for a measure is five for position angle, and two double distances for distance. But on many occasions more have been taken. Recently, the observer has been content on several occasions with fewer settings for position angle, in the firm belief that it is far better to get observations on many different nights than to get many settings on one night.

The periodic and progressive errors of the screw of the Repsold micrometer have been investigated. The formula for the periodic errors, which depends on observations made by Mr J. Lunt and myself in November 1899, is

$$-0^{r}\cdot00028\cos u - 0^{r}\cdot00022\sin u - 0^{r}\cdot00008\cos 2u + 0^{r}\cdot00004\sin 2u.$$

The maximum effect of this error on a measure by double distance is somewhat less than 0″·007. As the drum-head is only read to 0^{r}·001 and the probable errors of the series of observations on which the periodic errors rest are about 0^{r}·0002, it is evident that the periodic errors of this micrometer are absolutely insensible. Besides this, the zero of the screw has been frequently changed.

The correction for the progressive error rests on observations made by Mr S. S. Hough and myself on 1899 December 7, 8, 11 and 13. It is as follows:—

Revolution.	Correction to apply to Reading.	In Arc.	Revolution.	Correction to apply to Reading.	In Arc.
0	+0·0086		13	−0·0001	−0·002
1	71		14	2	3
2	57		15	4	7
3	45		16	7	−0·012
4	36		17	12	
5	27		18	18	
6	19		19	25	
7	13	"	20	33	
8	7	+0·012	21	44	
9	4	7	22	56	
10	2	3	23	69	
11	+0·0001	+0·002	24	−0·0084	
12	0	0·000			

All pairs are measured very close to the centre of the screw; this is obligatory in the method of double distances, as the centre fixed wire is used. Thus if a star of about 35″ distance is measured, as a revolution of the screw is approximately 17″·6, the readings will be roughly 14^{r} and 10^{r}, and the progressive error, in consequence, is about 0″·003. The probable error of an observation is far greater, so that the progressive error is also neglected.

Digitized by Google

The screw value of the Repsold micrometer has been determined by two methods.

First Method.

Differences of Declination of Stars whose Relative Positions have been Determined with the Heliometer.

Date.	Revolutions.	Different Declinations.	Value.	Stars.	Heliometer.
		″	″		
1899 Dec. 2–3–4	14·2993	251·63	17·598	ζ_1 and ζ_2 Reticuli	Cape
1901 Dec. 13	20·0658	353·76	·605	19 „ 20 Tauri	Yale
„ „ 23	16·4273	288·89	·586	16 „ 20 „	„
1902 Jan. 7	82·9516	1462·28	·610	19 to 27 „	„
„ „ 8	17·0838	300·98	·618	Dist. Atlas to Pleione	„

Mean = 17″·603 ± 0″·003

Second Method.

Transits of Polar Stars.

Date.	Star.	Declination.	Value.
		° ′	″
1901 Dec. 19	o Octantis	−88 34	17·684
„ „ 23	„	−88 34	17·673
„ „ 28	B.A.C. 1960	−84 50	17·655
1903 Mar. 14	„	−84 50	17·652 ± 0·029
„ „ 14	A Octantis	−88 35	17·631 ± 0·022

Mean = 17·659 ± 0·008

The results are not in good agreement. The difference is evidently of a systematic character, but how it arises is not clear. It is noteworthy that Otto Struve found a similar discordance at Pulkowa (*Observations*, vol. ix. pp. 18 and 24) viz. :

From measured distances	9″·7091
„ transits of stars	9 ·7326

He gave his preference to the former value.

In our reductions we have adopted the provisional value of

17″·600.

The error of this value has no appreciable effect on the accuracy of the measures, except in the case of α Centauri, as with the exception of that star the distances if over 10″ are only given to one place of decimals; if less than 10″, two places of decimals are given. Let us suppose the screw value is 0″·02 in error, then we have

Distance.	Error.
″	″
10·0	0·012
5·0	0·006
1·0	0·001

Digitized by Google

It will be generally conceded that these small quantities are of no importance.

The errors of the position circle are much less than 0°·1—probably less than 0°·02—and are of no importance. In fact, as an instrument for double star measurement, the Repsold micrometer is free from sensible error. The observations have been made with bright wires at night and of necessity with a bright field by day. With the 18-inch telescope all observations have been taken close to the meridian, that is, within 1^h or 2^h, very exceptionally at greater hour angles. The easy adjustment of the eye to the telescope by means of the rising floor makes observation close to the meridian convenient to the observer. Further, the regular list of stars measured is included between − 19° Dec. and the South Pole, so that the large majority of observations occurred so near the zenith that it was possible to adjust the head and body to both parallelism with and perpendicularity to the line joining the two stars in the micrometer. For this reason it is hoped that systematic errors depending on position angle have been wholly eliminated. If 5 measures of position angle were taken the procedure was thus :—

1 Eyes parallel
2 Eyes perpendicular
Rotate micrometer 180° ± } Stars between two threads.
3 Eyes perpendicular
4 Eyes parallel
Rotate micrometer 90° ±
5 Bisect stars with wire.

With stars near the pole this programme could not, of course, be carried out, unless the angle was near an octant (45°, 135°, etc.). The zero of the position circle has been determined generally once each night, sometimes twice. The measures made on any given night were in a general way of stars as close and difficult as the definition occurring would allow of. Thus wide and easy pairs were measured on bad nights, the closest and difficult pairs on good nights.

The entries in the catalogue which follows call for but little explanation. If the star is in the body of the Reference Catalogue of Southern Double Stars forming Part II. of this vol., its number therein is given, together with its designation from some catalogue. Then follows the magnitude of the pair, considered as one star. The magnitude depends on, (1) The *Harvard Southern Meridian Photometry*,* (2) the *Cordoba Durchmusterung*; failing these, the next best authority available. The right ascension and south declination are given for 1900. In the measures, the first column gives the date to the nearest hundredth of the year, the second column the angle observed, the third column the distance, the fourth column gives the difference of magnitude between the chief star and its companion; if this quantity is in brackets [ ] it shows that no observation was made of the mag. which is then taken from old authorities, the fifth column gives the colours observed, wherein 0 will

* Or its continuation in *Harvard Annals*, vol. xlvi. part 1.

Digitized by Google

signify a white star, 10 an intensely red star, and the intermediate numbers various stages from white to red, as follows :—

0 White.	6 Orange red.
1 Yellowish.	7 Reddish.
2 Yellow.	8 Red.
3 Deep yellow.	9 Very red.
4 Orange yellow.	10 Deepest red.
5 Orange.	

further

b	signifies	bluish.
B	,,	blue.
p or pur.	,,	purplish.
y	,,	yellowish.
Y	,,	yellow.

It seems useless to go in for further subdivisions or for fancy names of colour which can only convey distinct meanings to their actual author.

The close approach of Mars to γ Virginis, as seen with the naked eye in March 1903, affords a comparison. Mars would be 4 or 5 in the above scale, γ Virginis was decidedly bluish (b); this was due to contrast, as γ Virginis is a yellowish star.

Although the data as to colours are very incomplete (a) because if the companion is very faint it is impossible to estimate its colour, (b) because a remarkable contrast in colour is unlikely to miss being recorded, the following rough analysis of the observations of colour of double stars is of some interest.

	Proportion. per cent.	Average Difference of Magnitude.	Range of Difference of Magnitude.
Both stars white to yellowish, but of the same tint,	29	0·4	0·0 to 1·7
,, ,, **of the same tint, but decidedly yellow,**	19	0·4	0·0 to 1·6
or			
Both stars of the same tint,	48	0·4	0·0 to 1·7
Chief star yellow or yellowish, but the companion decidedly a deeper yellow,	4	2·5	1·7 to 4·1
Chief star yellowish, companion bluish,	16	2·4	1·0 to 4·0
,, ,, full yellow, ,, ,,	23	2·2	0·9 to 4·0
,, ,, yellow or yellowish, companion blue,	8	2·9	0·7 to 5·7
,, ,, bluish, companion yellow or yellowish,	1	1·0	0·2 to 1·7
	100		

The general close accordance of the colour estimates given in the catalogue shows that such observations are not without value.

The last column gives the name or initial of the observer. The initials used are :

T. M.	Sir Thomas Maclear.
W. M.	W. Mann.
G. M.	G. W. H. Maclear.
L.	J. Lunt.
I.	R. T. A. Innes.

Digitized by Google

Other abbreviations are fully explained in the Reference Catalogue.

The double stars found about 1899 at Arequipa and measured here, have been kindly communicated by Professor E. C. Pickering.

It will be seen that whilst several of Professor See's fine list of new double stars have been measured, a large proportion could not be divided. Some of these latter are perhaps too difficult for the 18-inch refractor (Professor See used a 24-inch), but many are certainly not double in the sense indicated by Professor See, unless the stars suffer from original errors of identification.

I have again been able to add many notes showing certain common proper motion, which seems to be a frequent if not the usual characteristic of double stars.

A few emendations to the Reference Catalogue have been included in the text.

Digitized by Google

Digitized by Google

MICROMETRICAL MEASUREMENTS

OF

DOUBLE STARS

MADE AT THE ROYAL OBSERVATORY, CAPE OF GOOD HOPE,

1849-1903.

0hrs.

Ref. Cat. 0h. No. 1. λ 1. MAG. 8.8
0h 0m 51s — 30° 53′.1.

1900.84	323°.5	4″.58	[2.7]	...	L	1 n

Found by Mr Cogshall of the Lowell Observatory in 1896. Since the Reference Catalogue appeared, the following set of measures has been published :—

1899.4	323°.0	4″.63	2.8	...	Cogshall	3 n

Ref. Cat. 0h. No. 2. Lac. 9721. 5.8
0h 1m 9s — 49° 37′.8.

1900.00	176°.0	5″.18	4.9	...	I	
1900.02	178.2	clouded		...	,,	
1901.84	176.8	5.74	...	...	,,	
1901.92	178.7	...	...	...	,,	
1901.94	176.7	5.63	...	...	,,	
1901.14	177.3	5.52	4.9	...	I	5-3 n
1900.84	174.6	5.58	5.9	...	L	
1900.87	177.2	5.30	...	...	,,	
1900.86	175.9	5.44	5.9	...	L	2 n

Found by Prof. Bailey at Arequipa :—

1894.7	175°.±	4″.±	8.4	...	Bailey	1 n

Sufficient time has now elapsed to show that the companion shares in the p.m. of the chief star = 0″·485 towards 91°·2.

There are 6 faint stars near this pair.

Harvard Arequipa List. Lac. 9740. MAG. 6.3
0h 4m 0s — 54° 33′.6.

1900.86	290°.3	0″.77	3.5	...	I	
1900.87	291.7	0.86	3.0	...	,,	
1901.84	294.0	0.73	...	...	,,	
1901.19	292.0	0.79	3.2	...	I	3 n

The original estimate is :—

1899	300°.±	1″.2±	2.2	...	Clymer	1 n

The p.m. of this star is very small.

Ref. Cat. 0h. No. 4. λ 2. 6.0
0h 2m 40s — 23° 3′.9.

1899·9	Single.				Cogshall	1 n

Ref. Cat. 0h. No. 5. β 391. 6.0
κ_1 Sculptoris.
0h 4m 15s — 28° 32′.7.

1900.84	274°.6	1″.35	[0.1]	...	L	1 n

Recent measures are :—

1898.7	270°.0	1″.09	...	...	Boothroyd	2 n
1900.8	273.3	1.25	...	...	Solá	1
1901.8	272.6	...	...	...	Doberck	1

Digitized by Google

Ref. Cat. 0h. No. 6. λ 3. MAG. 8.5
0h 4m 46s — 34° 20′.5.

1901.94	196°.3	1″.10	1.0	...	I	1 n

All the measures of this pair are:—

1896.7	187°.8	1″.15	...	...	See	2 n
1899.7	190.0	0.90	...	...	Cogshall	2
Change?						

Ref. Cat. 0h. No. 7. Innes 43. 6.9
0h 5m 44s — 73° 47′.0.

1900.00	330°.9	...	...	...	I	
1900.03	328.7	1.17	...	...	,,	
1901.84	327.2	0.86	...	...	,,	
1900.62	328.9	1.01	[1.0]	...	I	3–2 n

There is a 14m star, 360° ± 20″±.

h 3350. C.P.D.—58°. No. 7. 8.2
0h 5m 50s — 58° 2′.7.

1901.84	179°.0	3″.31	0.4	...	I	
1901.94	179.7	3.37	...	...	,,	
1901.89	179.3	3.34	0.4	...	I	2 n

We have the following old measures:—

1835.8	173°.6	2″.5±	0.7	...	*h*	2 n
1879.0	174.9	4.72	2.0	...	Hargrave	1

Ref. Cat. 0h. No. 14. *h* 3362.

h's place is 1h too small. Is same as *h* 2043. Ref. Cat. 1h. No. 24. Some other stars observed in the same sweep as *h* 3362 also require a correction of + 1h.

Ref. Cat. 0h. Nos. 19. κ Phenicis
,, ,, 20. α ,,

1901.82	Both single	I		1 n

The latter star was again examined in 1901.94, when no companion could be seen even when the bright star was occulted. I 1 n.

Ref. Cat. 0h. No. 22. Innes 44. 8.2
0h 23m 27s — 55° 10′.6.

1900.84	244°.0	0″.77	0.6	...	I	
1900.86	246.2	0.72	0.4	...	,,	
1900.85	245.1	0.74	0.5	...	I	2 n

Ref. Cat. 0h. No. 23, A–C. h 3370. MAG. 8.0
0h 23m 42s — 66° 27′.9.

1900.84	63°.6	39″.8	...	...	L	
1900.87	63.9	39.8	...	...	,,	
1900.86	63.7	39.8	[1.0]	...	L	2 n

Ref. Cat. 0h. No. 24. Innes 177. 8.1
0h 23m 48s — 83° 41′.6.

1900.84	18°.0	1″.07	0.5	...	I	
1900.86	16.4	1.03	1.2	...	,,	
1900.85	17.2	1.05	0.9	...	I	2 n

Ref. Cat. 0h. No. 27. β Toucani. 3.6
0h 26m 58s — 63° 31′.0.

1901.09	170°.7	27″.2	0.2	...	I	
1901.84	170.7	27.2	...	3,4	,,	
1901.46	170.7	27.2	0.2	3,4	I	2 n

On the second occasion it was remarked "south star decidedly fainter and yellower." It may be remembered that in the South Meridian Photometry the southern is the brighter star.

β_2 Toucani.

1900.10	298°.2	...	...	...	I	
1900.61	297.6	0.76	0.2	...	,,	
1900.71	302.9	0.81	most difficult		L	
1900.47	299.6	0.78	0.2	...	Cape	3–2 n
1901.09	296°.7	1″.11	...	...	I	
1901.82	290.6	...	...	...	,,	
1901.84	292.0	0.78	...	...	,,	
1901.58	293.1	0.94	...	...	I	3–2 n

The following estimates establish retrograde motion in angle with an increasing distance:—

1896.0	335°.	0″.4	2.0	...	Bailey	1 n
1897.9	300.	0.7	1.0	...	I	1

Digitized by Google

Ref. Cat. 0h. No. 28. Lac. 130. MAG. 7.5
0h 28m 49s —55° 52′.8.

A—B = Innes 45

1900.84	278.°8	0.″53	....	...	I	
1900.86	268.4	0.50	...	...	,,	
1900.86	274.8	0.50	0.3	...	,,	
1900.85	274.0	0.51	0.3	...	I	3 n

A B—C = *h* 3376.

1900.84	248.°9	6.″94	...	...	I	
1900.86	248.3	6.67	...	...	,,	
1900.85	248.6	6.80	...	...	I	2 n

There are the following estimates of the close pair:—

1896.0	290.°	0.″5	1.0	...	Bailey
1896.8	280.	0.8	1.4	...	I
1899	...	0.5	0.4	...	Clymer

Ref. Cat. 0h. No. 34. Innes 46. 8.1
0h 35m 13s — 39° 29′.7.

1900.61	331.°4	1.″94	2.3	...	I	
1900.70	327.9	...	...	...	L	
1900.66	329.7	1.94	2.3	...	Cape	2–1 n

Ref. Cat. 0h. No. 36. *h* 3385. 8.7
0h 36m 2s — 41° 45′.3.

Colours slightly contrasted.

1900.61	250.°7	4.″39	0.2	...	I	
1900.67	250.0	4.21	...	...	,,	
1900.64	250.4	4.30	0.2	...	I	2 n

Harvard Arequipa List. 6.1
λ_1 Sculptoris.
0h 37m 54s — 39° 0′.7.

1901.84	321.°5	0.″54	0.1	...	I	1 n

Prof. Bailey considered this "possibly elongated in 90°" in 1896.
There is no p.m.

h 3390. Lac. 187. MAG. 7.0
0h 38m 34s — 45° 43′.8.

1900.85	312.°3	14.″0	2.5	4, B	I	1 n

Previously:—

1834.7	313.°5	15.″±	4.0	o, B	*h*	1 n

There is no material for a determination of the p.m.

Ref. Cat. 0h. No. 39. η Phenicis. 4.5
0h 38m 52s — 58° 0′.7.

1900.00	218.°4	19.″6	7.0	...	I	
1900.84	216.9	19.6	...	...	,,	
1900.42	217.7	19.6	7.0	...	I	2 n

Ref. Cat. 0h. No. 40. U.A. 64 Toucani 6.4
0h 40m 10s — 63° 2′.7.

1900.03	68.°1	2.″50	...	...	I	
1900.03	69.2	2.52	...	...	L	
1900.03	69.0	2.74	...	...	Gill	
1900.70	70.0	2.36	...	...	L	
1900.20	69.1	2.53	[1.9]	...	Cape	4 n

Ref. Cat. 0h. No. 42. Lac. 207. 5.7
0h 41m 4s — 48° 6′.1.

1900.86	308.°3	14.″2	7.3	3, —	I	
1901.84	304.8	14.5	...	3, —	,,	
1901.35	306.6	14.3	7.3	3, —	I	2 n

Previously:—

1896.0	280.°±	10.″±	8.3	...	Bailey	1 n

The p.m. is 0″.181 towards 70°.6.

Ref. Cat. 0h. No. 43. *h* 3396. 9.4
0h 41m 18s — 33° 50′.2.

1901.94	221.°8	4.″31	1.0	...	I	1 n

Digitized by Google

Ref. Cat. 0h. No. 45. Innes 261. MAG. 7.2
0h 43m 4s — 29° 53′.4.

1900.84	49.°7	< 0.″25	...	...	I	
1900.86	53.2	..	...	...	,,	
1901.84	55.5	...	...	...	,,	
1901.18	52.8	...	[0.3]	...	I	3 n

Never quite sure that the elongation was real, but on all three occasions the measures were fairly accordant and were independent.

Ref. Cat. 0h. No. 48. Innes 47. 7.0
0h 47m 12s — 44° 15′.2.

1900.61	0.°7	1.″10	0.6	...	I	
1900.86	1.3	1.09	0.4	0, o	,,	
1900.74	1.0	1.10	0.5	0, o	I	2 n

The p.m. is very small.

Ref. Cat. 0h. No. 52. λ_1 Toucani. 6.6
0h 48m 36s — 70° 2′.7.

1849.86	79.°8	21.″3	0.8	b, b	T.M.	
1849.87	79.8	...	...	...	,,	
1854.90	78.9	21.1	...	...	,,	

The mean of these measures is already given in the Ref. Cat.

Common p.m. of 0″.075 towards 142°.8.

Ref. Cat. 0h. No. 58. Innes 48. MAG. 7.2
0h 54m 0s — 67° 6′.0.

1900.10	331.°4	...	...	...	I	
1900.86	334.3	0.63	0.7	3, 3	,,	
1900.48	332.9	0.63	0.7	3, 3	I	2–1 n

Ref. Cat. 0h. No. 60. Innes 49. 7.4
0h 56m 17s — 53° 7′.3.

1900.82	43.°1	0.″76	0.3	...	I	
1900.86	42.6	0.75	0.2	...	,,	
1900.84	42.8	0.76	0.3	...	I	2 n

Ref. Cat. 0h. No. 64. *h* 3415. 7.2
0h 59m 19s — 41° 11′.1.

1900.87	151.°0	0.″95	1.0	...	I	1 n

Certainly not much change, if any, in this fine pair in the last fifty years.

Harvard Arequipa List. 7.3
U.A. 83*a* Toucani.
0h 59m 25s — 41° 3′.9.

1900.85	259.°1	3.″36	3.2	...	I	
1900.87	260.2	3.90	2.7	3, —	,,	
1900.86	259.6	3.63	3.0	3, —	I	2 n

The Arequipa estimate is :—

1899	260.°±	5.″±	5.7	...	Clymer 1 n

Digitized by Google

Ref. Cat. 1h. No. 1. β Phenicis. MAG. 3.4
1h 1m 37s — 47° 15′.3.

1899.91	18°.0	1″.26	...	...	Gill	
1900.72	16.5	1.33	...	...	L	
1900.85	19.7	1.75	...	...	,,	
1900.49	18.1	1.45	[0.0]	...	Cape	3 n

Retrograde motion of 1° a year since its discovery in 1892 by Sellors. Distance perhaps increasing.

Ref. Cat. 1h. No. 2. h 3418. 9.0
1h 1m 38s — 58° 25′.8.

1901.84	252°.4	3″.17	...	...	I	
1901.93	253.6	2.75	...	...	,,	
1901.89	253.0	2.96	[0.7]	...	I	2 n

Ref. Cat. 1h. No. 6. Innes 262. 7.7
1h 4m 6s — 30° 9′.2.

1900.82	168°.5	0″.83	0.8	...	I	
1900.87	169.2	0.70	0.7	...	,,	
1900.84	168.9	0.76	0.8	...	I	2 n

Ref. Cat. 1h. No. 9. Cape 1. 8.3
1h 5m 0s — 40° 40′.5.

1900.67	70°.9	2″.11	0.8	...	I	
1900.70	73.7	2.24	...	...	L	
1900.85	70.1	2.35	...	...	,,	
1900.74	71.6	2.23	0.8	...	Cape	3 n

Ref. Cat. 1h. No. 10. Gilliss 9. 7.2
1h 7m 4s — 73° 29′.4.

1901.84	355°.3	3″.62	3.0	...	I	1 n

Ref. Cat. 1h. No. 11. Cordoba [3]. 8.3
1h 7m 9s — 45° 59′.8.

1900.67	70°.5	2″.85	0.2	...	I	
1900.86	69.8	3.10	...	...	L	
1900.87	68.7	3.21	...	...	,,	
1900.80	69.7	3.05	0.2	...	Cape	3 n

Cape 26. C.Z. 1h 176. MAG. 8.7
1h 8m 0s — 49° 48′.5.

1899.8	50°.±	1″.±	0.3	...	I	1 n

The p.m. is very small.
Discovered at the Transit Circle by Mr W. H. Cox.

Ref. Cat. 1h. No. 13. Innes 27. 7.3
1h 11m 34s — 69° 21′.0.

1900.01	195°.1	1″.29	0·8	...	I	
1900.70	201.5	0.94	...	...	L	
1900.72	199.3	0.90	0.4	...	I	
1900.82	197.3	0.90	0.2	...	,,	
1901.09	201.3	0.95	0.6	4, 4	,,	
1901.84	207.0	clouded		...	,,	
1902.15	208.0	0.96	0.6	...	,,	
1900.67	198.9	1.00	0.5	4, 4	Cape	5 n
1902.00	207.5	0.96	0.6	...	I	2–1 n

Angle increasing.

Ref. Cat. 1h. No. 14. κ Toucani. 4.9
1h 12m 23s — 69° 24′.5.

1900.00	348°.3	5″.24	...	...	I	
1900.70	353.2	5.28	...	...	L	
1900.70	353.4	5.03	...	...	,,	
1900.72	352.8	5.51	...	...	I	
1900.82	354.2	5.12	...	...	,,	
1901.09	351.1	5.38	...	3, —	,,	
1901.84	352.2	5.01	...	3, —	,,	
1902.15	352.8	5.00	...	3, —	,,	
1901.00	352.3	5.19	[2.7]	3, purp.	Cape	8 n

On the three occasions that the colour of the chief star was noted, the companion was called "red-brown," "purplish," and "purplish."

Ref. Cat. 1h. No. 15. Innes 50. 9·0
1h 12m 42s — 37° 48′.4.

1900.82	147°.9	0″.79	1.0	Poor obs.	I	
1900.87	140.7	0.92	1.0	...	,,	
1900.85	144.3	0.85	1.0	...	I	2 n

Digitized by Google

Ref. Cat. 1h. No. 21. *h* 2036. MAG. 6·3
1h 15m 3s —16° 20′.1.

1850.81	41°.8	1″.77	...	...	T.M.	
1851.78	42.3	1.86	...	...	,,	
1854.90	40.2	1.65	1.0	...	,,	
1852.50	41.4	1.76	1.0	...	T.M.	3 n

A slow binary.

Ref. Cat. 1h. No. 22. *h* 3430. 7.1
1h 16m 29s —57° 52′.0.

1899.95	238°.0	2″.77	...	—, Y	I	
1899.96	235.9	2.91	...	...	,,	
1899.96	237.0	2.84	[2·9]	—, Y	I	2 n

Very slow change.

Ref. Cat. 1h. No. 26. Innes 263. 7.2
1h 18m 58s —70° 14′.5.

1900.01	56°.3	0″.87	...	...	I	
1900.72	64.6	0.61	0.2	...	,,	
1900.72	63.0	0.84	...	...	L	
1900.48	61.3	0.77	0.2	...	Cape	3 n

Harvard Arequipa List. Lac. 388. 7.4
1h 19m 14s —41° 28′.5.

1900.85	240°.5	″...	4.0	4, b	I	
1900.87	240.5	4.45	4.5	...	,,	
1900.86	240.5	4.45	4.3	4, b	I	2–1 n

The previous estimate is:—

1899	220	5	5.6	...	Clymer

P.M.:— $\alpha = [-0^s.01]$, $\delta = -0''.08$

Ref. Cat. 1h. No. 31. Innes 264. 8.0
1h 27m 36s — 53° 53′.1.

A—B

1900.01	116°.6	″...	0.2	...	I	
1900.87	125.9	0.51	0.2	...	,,	
1900.44	121.2	0.51	0.2	...	I	2–1 n

AB — C

1900.01	6°.8	39″.1	3.5	...	I	
1900.87	6.5	39.3	...	...	,,	
1900.44	6.6	39.2	3.5	...	I	2 n

Ref. Cat. 1h. No. 33. Innes 51. MAG. 7.0
1h 30m 6s — 46° 12′.4.

1900.84	11°.5	1″.84	2.7	3, b	I	
1900.87	14.4	1.68	3.0	...	,,	
1900.86	13.0	1.76	2.9	3, b	I	2 n

P.m. = 0″·118 towards 31°·9.

Ref. Cat. 1h. No. 35. τ Sculptoris. 5.7
1h 31m 31s — 30° 25′.2.

1900.86	93°.1	1″.88	...	...	L	
1900.93	95.4	2.02	...	...	,,	
1900.90	94.2	1.95	[1.0]	...	L	2 n

Slow change.

Dunlop 4. Lac. 489. 7.1
1h 34m 56s — 53° 56′.7.

1835.8	104°.3	10″.5	0.8	...	*h*	3 n
1873.9	103.2	11.1	1.0	...	Russell	1

This is an example of the common p.m. systems. The p.m. in α is small and uncertain; in $\delta = 0''.09$.

Ref. Cat. 1h. No. 37. p Eridani. 5.3
1h 35m 59s — 56° 42′.2.

1849.93	269°.4	4″.38	0.2	0.0	T.M.	
1850.83	268.6	4.49	...	...	,,	
1851.78	268.0	4.10	...	...	,,	
1850.85	268.7	4.32	0.2	0.0	T.M.	3 n
1854.89	262.6	4.49	...	...	T.M.	
1854.90	262.7	4.40	...	...	,,	
1854.90	262.6	4.44	...	...	T.M.	2 n
1900.07	224.4	7.47	...	...	L	
1900.70	222.7	7.92	...	...	,,	
1901.03	222.1	7.89	0.3	4,4	I	
1901.03	221.5	7.78	0.3	3,4	,,	
1900.94	222.7	7.76	0.3	3,4	Cape	4 n

Ref. Cat. 1h. No. 38. λ 15. 7.8
1h 36m 25s — 22° 13′.5.

1900.86	313°.2	2″.84	[1.6]	....	L	1 n

Digitized by Google

Ref. Cat. 1h. No. 43. Gilliss 14. MAG. 7.2
1h 39m 18s —82° 47′.2.

1901.03	54°.6	5″.52	1.2	4, B	I	1 n

Ref. Cat. 1h. No. 45. h 3464. 7·8
1h 39m 48s —76° 44′.9.

1901.03	157°.7	3″.04	1.5	3, b	I	
1901.97	158.4	3.15	1.6	...	„	
1901.50	158.0	3.09	1.6	3, b	I	2 n

Fixed.

Ref. Cat. 1h. No. 48. Innes 52. 8.5
1h 43m 31s — 44° 28′.2.

1900.86	181°.2	0″.65	0.4	...	I	
1901.97	178.6	0.62	0.3	...	„	
1901.41	179·9	0.64	0.4	...	I	2 n

Ref. Cat. 1h. No. 52. h 3469. 6.4
1h 45m 30s — 38° 54′.4.

1901.97	351°.5	28″.±	7.6	...	I	1 n

Picked up when looking for *h's* companion 71° 2″, which was not seen.

This star was also examined at Arequipa, with the following result:—

1899	350°.±	20″.±	7.1	...	Clymer

P.m. = 0″·26 towards 0°·0.

Ref. Cat. 1h. No. 55. χ Eridani. MAG. 3.8
1h 52m 4s — 52° 6′.4.

1899.95	194°.1	″ ...	...	...	I	
1899.96	200.4	6.21	...	...	„	
1899.96	197.2	6.21	[8.4]	...	I	2–1 n

Common p.m. pair.

Ref. Cat. 1h. No. 56. h 3475. 6.4
1h 52m 6s — 60° 48′.0.

1900.11	49°.6	2″.60	...	...	I	
1900.70	52.3	2.53	...	...	L	
1900.72	52·3	2·43	...	...	„	
1900.51	51.4	2.52	[0.4]	...	Cape	3 n

Slow increase in angle.

Ref. Cat. 1h. No. 57. Cape 2. 9.0
1h 52m 30s — 42° 51′.7.

1900.67	93°.8	3″.33	0 5	...	I	
1900.70	95.8	3.19	...	...	„	
1900.68	94.8	3.26	0.5	...	I	2 n

Ref. Cat. 1h. No. 61. Innes 265. 8.0
1h 56m 50s — 44° 18′.8.

1900.86	25°.4	0″.79	0.7	...	I	
1901.97	24.6	0.95	1.5	...	„	
1901.41	25.0	0.87	1.1	...	I	2 n

Digitized by Google

Innes 311. Lac. 700. MAG. 8.4
2h 1m 48s — 82° 46′.6.

1901.03	40°.6	2″.23	1.0	3, B	I	
1901.03	44.3	...	...	...	,,	
1901.06	39.7	1.65	0.5	2, B	,,	
1901.04	41.5	1.94	0.7	2½, B	I	3–2 n

The p.m. is very small.

Ref. Cat 2h. No. 5. h 3485. 8.1
2h 7m 45s — 49° 48′.2.

1900.71	140°.1	4″.06	...	...	L	
1900.80	140.9	4.16	...	...	,,	
1900.76	140.5	4.11	[0.7]	...	L	2 n

Fixed.

Ref. Cat. 2h. No. 7. Innes 266. 7.6
2h 10m 21s — 66° 37′.4.

1899.96	159°.2	3″.31	...	4, B	I	
1900.86	164.8	3.06	...	...	,,	
1900.41	162.0	3.18	[3.4]	4, B	I	2 n

The p.m. is very small.

Ref. Cat. 2h. No. 12. h 3497. 5.6
2h 16m 40s — 56° 24′.3.

A.—B.

1899.96	81°.5	33″.1	5.1	...	I	1 n

A.—C. (New).

1899.96	318.8	69.2	7.6	...	I	1 n

A.—B. has also been seen at Arequipa. It is unchanged since 1836. [1836.7, 81°.7, 35″±, 4.6, *h* 1 n]. The p.m. of the chief star—in which B seems to share—is about 0″.02 towards 360°.

Ref. Cat. 2h. No. 13. Innes 147. 7.7
2h 17m 53s — 48° 46′.1.

1899.96	336°.4	″...	...	...	I	
1900.86	343.2	1.61	...	...	,,	
1900.41	339.8	1.61	[2.2]	...	I	2–1 n

Cape No. 27. Lac. 1884. MAG. 7.9
2h 33m 14s — 88° 49′.7.

1900 99	...	7″.39	2.0	...	I	
1900.99	204°.3	7.49	...	0, 6	,,	
1901.00	204.6	...	...	...	,,	
1901.02	205.2	...	...	...	,,	
1901.02	204.5	...	...	...	Hough	
1901.00	204.7	7.44	2.0	0, 6	Cape	4–2 n

The difficulties of measuring the position angle of this close polar star gave rise to a short paper on a new method of observation in the *Monthly Notices*, vol. lxi. pp. 358–360, 1901.

Ref. Cat. 2h. No. 24. Innes 53. 9.6
2h 35m 40s — 40° 23′.6.

1900.10	331°.0	4″.07	...	...	I	
1900.86	330.4	3.52	...	...	L	
1900.48	330.7	3.80	[0.7]	...	Cape	2 n

Innes 386. U.A. 13½. Horologii. 7.2
2h 37m 3s — 59° 59′.1.

1901.03	330°.0	0″.25±	...	0, 0	I	
1901.06	307.7	<0.3	0.2	...	,,	
1901.07	320.6	...	...	...	,,	
1901.08	319.1	...	...	...	,,	
1902.15	143.5	0.3±	0.2	0, 0	,,	
1901.28	320.2	0.3±	0.0	0, 0	I	5 n

The f. of two nearly equal stars, the pr. being yellow 3, mag. 7·0. As a wide pair, these are certainly *h* 3525 with an error of 1° in *h*'s dec. In *h*'s position, not found at Sydney in 1879. *h* gave:—

1836.8	274°.3	35″.1	0, 0	...	*h*	1 n

The latter distance is derived from *h*'s $\Delta\alpha$ and position angle.

Ref. Cat. 2h. No. 31. Cape No. 46. 8.0
2h 41m 48s — 41° 39′.2.

1900.10	22°.2	1″.89	...	...	I	
1900.70	27.1	2.17	...	...	,,	
1900.40	24.7	2.03	[1.0]	...	I	2 n

Originally registered as Innes 267, but it was afterwards found that Mr J. A. J. Pead had previously seen it at the Transit Circle in Nov. 1897.

Digitized by Google

Ref. Cat. 2h. No. 32. Innes 28. MAG. 8.5
2h 42m 4s — 67° 42′.4.

1899.96. Single; the only pair near here is C.G.A. 2996 + 7, 1900:—2h 43m 34s —67° 25′.3.

Ref. Cat. 2h. No. 35. C.Z. 2h 1201. 9.0
2h 44m 20s — 60° 34′.0.

A—B = Innes 268

1900.01	251°.3	0″.99	[0.5]	[3, 3]	I	1 n

A B—C = *h* 3534

1900.01	215°.4	21″.0	[0.7]	...	I	1 n

Ref. Cat. 2h. No. 40. γ_2 Fornacis. 5.6
2h 45m 34s — 28° 21′.4.

1900.72	Single, good definition	L	1 n

Ref. Cat. 2h. No. 43. Cordoba [6]. 8.5
2h 47m 15s — 45° 39′.0.

1900.10	181°.2	3″.59	0.2	...	I	
1900.70	181.2	3.72	0.2	...	„	
1900.40	181.2	3.66	0.2	...	I	2 n

Innes 412. Lac. 912. 6.7
2h 48m 56s — 41° 48′.1.

1898	280° ± 16″ ±	4.8	...	I	
1902.15	295 ± 15 ±	6.8	...	„	

The first was estimated from the .·. plate, No. 6098; the second was estimated with the 18-in., when the companion was found to be too faint to measure.

The p.m. of the chief star is 0″.092 towards 150°.8.

Ref. Cat. 2h. No. 45. *h* 3541. MAG. 8.5
2h 49m 57s — 60° 20′.2.

1901.06	156°.8	2″.46	1.0	...	I	
1901.76	156.0	2.61	1 5	2, b	„	
1901.41	156.4	2.53	1.3	2, b	I	2 n

Ref. Cat. 2h. No. 46. Innes 148. 7.6
2h 52m 17s — 63° 24′.6.

1900.00	7°.7	4″.54	...	...	I	
1900.86	8.2	5.51	...	...	„	
1900.43	7.9	5.02	[1.5]	...	I	2 n

Ref. Cat. 2h. No. 47. Cordoba [7]. 8.0
2h 52m 41s — 39° 50′.7.

1900.10	182°.8	3″.39	...	...	I	
1900.70	184.1	3.38	0.3	...	„	
1900.40	183.5	3.38	0.3	...	I	2 n

Ref. Cat. 2h. No. 48. Innes 149. 9.4
2h 52m 48s — 23° 47′.1.

1900.10	260°.2	7″.25	1.6	...	I	1 n

Ref. Cat. 2h. No. 50. θ Eridani. 3.2
2h 54m 28s — 40° 42′.3.

1900.72	85°.2	8″.22	...	...	L	
1900.86	84.5	8.11	...	...	„	
1900.79	84.9	8.17	[1.5]	...	L	2 n

Ref. Cat. 2h. No. 53. *h* 3549. 9.4
2h 59m 10s — 38° 27′.3.

1900.10	277°.2	5″.93	[1.8]	...	I	1 n

Digitized by Google

Innes 387. C.Z. 3h 1. MAG. 8.0
3h 0m 35s — 60° 23′.4.

1901.08	146°.7	0″.57	0.2	3, 3	I	
1903.16	142.0	0.51	0.0	2, 2	„	
1902.12	144.3	0.54	0.1	2.5, 2.5	I	2 n

Ref. Cat. 3h. No. 4. Cape 3. 9.2
3h 4m 30s — 42° 53′.9.

1900.06	249°.8	2″.60	...	...	I	
1901.06	254.0	2.18	0.6	...	„	
1900.56	251.9	2.39	0.6	...	I	2 n

Ref. Cat. 3h. No. 5. Innes 54. 8.7
3h 5m 0s — 41° 44′.7.

1900.06	132°.6	1″.22	0.5	...	I	
1901.06	131.1	0.74	0.3	...	„	
1900.56	131.9	0.98	0.4	...	I	2 n

Ref. Cat. 3h. No. 9. λ 22. 8.0
Ö.A. 2112.
3h 7m 42s — 30° 39′.1.

1901.06	343°.4	1″.18	2.0	...	I	1 n

Prof. See's identification of this star as Ö.A. 2118 is erroneous.

Ref. Cat. 3h. No. 10. Piazzi 3h 19. 6.1
3h 8m 55s — 44° 47′.7.
A—B

1900.01	182°.6	0″.97	0.7	...	I	
1901.06	183.1	0.83	0.8	...	„	
1901.09	181.5	0.81	0.8	3, 3	„	
1900.72	182.4	0.87	0.8	3, 3	I	3 n

As Jacob suspected this was a close pair in a direction nearly south in 1856, it seems to be fixed.

A—C = *h* 3556

1900.01	210°.7	3″.45	...	...	I	1 n

B—C = *h* 3556

1900.01	220°.4	2″.64	...	...	I	1 n

The system A, B, C has a common p.m. of 0″.08 towards 112°.0.

Innes 341. Ö.A. 2179. MAG. 8.5
3h 13m 36s — 19° 25′.8.

1901.07	163°.1	3″.55	1.0	...	I	
1901.09	162.9	4.22	2.0	...	„	
1901.08	163.0	3.88	1.4	...	I	2 n

The Δ m = 1·4 includes an observation with the 7-in. in 1900.

Innes 388. C.P.D.—63°. No. 214. 8.3
3h 14m 29s — 63° 38′.7.

1901.09	322°.2	0″.66	0.4	...	I	
1903.16	314.5	0.62	0.2	...	„	
1902.12	318.3	0.64	0.3	...	I	2 n

Ref. Cat. 3h. No. 20. Innes 56. 8·5
3h 15m 6s — 43° 0′.4.

1900.10	259°.2	3″.44	2.4	...	I	
1900.90	253.6	3.26	3.0	...	„	
1900.50	256.4	3.35	2.7	...	I	2 n

Ref. Cat. 3h. No. 21. Innes 150. 8.2
3h 15m 56s — 63° 26′.3.

1899.92	359°.0	4″.00	2.0	...	I	
1900.00	356.4	4.12	...	...	„	
1901.09	358.3	3.82	3.5	...	„	
1902.14	358.0	3.93	2.5	...	„	
1900.76	357.9	3.97	2.7	...	I	4 n

On 1902.14 :—Colours slightly contrasted.

Ref. Cat. 3h. No. 23. Innes 151. 8.2
3h 18m 39s — 41° 40′.6.

1900.90	160°.2	1″.24	0.2	0, 0	I	
1900.99	160.6	1.21	0.3	0, 0	„	
1900.94	160.4	1.22	0.3	0, 0	I	2 n

Ref. Cat. 3h. No. 25. *h* 3576. 7.2
3h 21m 14s — 46° 1′.0.

1851.78	341°.5	2″.93	...	...	T. M.	1 n

Digitized by Google

Ref. Cat. 3h. No. 27. Innes 57. MAG. 9.0
3h 24m 0s — 59° 38′.2.

1900.06	211°.8	2″.61	...	...	I	
1900.90	209.9	2.14	1.0	...	„	
1900.48	210.8	2.37	1·0	...	I	2 n

Ref. Cat. 3h. No. 28. χ_3 Fornacis. 6.6
3h 24m 20s. —36° 12′.0.

1900.90	248°.4	5″.95	3.9	−, 6	I	
1900.99	249.8	6.60	4.4	−, 6	„	
1901.95	251.0	6.57	...	−, 6	„	
1901.28	249.7	6.37	4.1	−, 6	I	3 n

Noted as "dpl. 6½, 10" in the U.A.

Ref. Cat. 3h. No. 41. λ 30. 6.2
3h 42m 1s — 54° 35′.3.

1901.01	Certainly single	I	1 n

Prof. See has 290°.3, 0″.63, 0.7 on 2 n in 1897.
As a wide pair, this is *h* 3592 with a common p.m. of 0″.065 towards 23°.5.

Cape No. 38. C.P.D.—40° No. 357. 9.0
3h 42m 10s — 40° 29′.2.

1902.14	211°.4	3″.78	1.2	...	I	
1903.16	211.7	3.96	0.5	...	„	
1902.65	211.6	3.87	0.9	...	I	2 n

Found by Mr W. H. Cox at the Transit Circle in 1896.

Innes 389. C.P.D.—55° No. 570. MAG. 8.8
3h 47m 8s — 55° 39′.1.

1901.08	203°.4	2″.22	0.1	...	I	
1901.76	203.1	2.06	0.3	...	„	
1901.42	203.2	2.14	0.2	...	I	2 n

Ref. Cat. 3h. No. 51. Piazzi 3h 206. 5.6
3h 50m 53s — 40° 39′.1.

1901.05	173°.0	23″.2	6.4	3, —	I	
1901.07	172.5	23.3	6.9	...	„	
1901.06	172.8	23.2	6.6	3, —	I	2 n

Found by Prof. Bailey at Arequipa.
The p.m. is small.

Ref. Cat. 3h. No. 61. Innes 269. 7.3
3h 58m 39s — 54° 41′.1.

A—B

1900.02	80°.1	3″.53	...	...	I	
1900.03	79.9	...	...	...	„	
1900.03	78.5	3.97	...	...	Gill	
1900.03	75.4	...	...	...	L	
1901.05	79.2	3.63	...	...	I	
1901.76	78.1	3.17	...	...	„	
1900.49	78.5	3.57	[2.7]	...	Cape	6–4 n

A—C

1900.03	195°.4	27″.7	...	...	L	
1900.03	196.0	27.7	4.7	...	I	
1900.03	195.7	27.7	4.7	...	Cape	2 n

Digitized by Google

Ref. Cat. 4h. No. 2. Russell 38. MAG. 6.4
4h 0m 55s — 85° 33′.6.

1900.08	245°.0	2″.30	[1.2]	[o, o]	L	1 n

Fixed.
The p.m. is very small.

Ref. Cat. 4h. No. 4. Innes 152. 7.6
4h 1m 13s — 35° 43′.0.

1900.02	70°.7	0″.92	0.0	...	I	
1900.17	65.4	...	...	...	„	
1901.05	70.5	0.83	0.0	...	„	
1900.41	68.9	0.87	0.0	...	I	3–2 n

Ref. Cat. 4h. No. 6. Innes 153. 7.1
4h 4m 26s — 33° 7′.4.

1900.11	337°.8	0″.78	0.0	o, o	I	
1900.99	341.1	0.89	0.0	...	„	
1900.55	339.5	0.83	0.0	o, o	I	2 n

Ref. Cat. 4h. No. 11. *h* 3641. 5.3
4h 13m 29s — 62° 26′.6.

1902.14	253°.9	8″.72	4.0	4, b	I	
1902.15	253.7	8.15	...	4, p	„	
1902.14	253.8	8.43	4.0	4, b	I	2 n

The angle is slowly decreasing, *h* 1835.9 giving 285°.6, 2 n.

Ref. Cat. 4h. No. 12. υ_4 Eridani. 3.8
4h 14m 7s — 34° 2′.6.

1900.02	Single			I
1900.11	„	Good definition		„

In spite of my confident observations of 1898, I now feel sure this star is single.

Ref. Cat. 4h. No. 14. *h* 3642. 6.3
4h 15m 17s — 34° 8′.8.

1903.16	159°.8	6″.05	2.0	2, b	I	1 n

Fixed.

Ref. Cat. 4h. No. 21. Innes 271. MAG. 7·5
4h 18m 32s — 43° 1′.5.

1900.02	148°.0	2″.67	...	...	I	
1900.17	148.2	2.22	...	...	„	
1901.05	146.9	2.41	2.3	4, b	„	
1901.76	143.7	2.28	...	3, b	„	
1900.75	146.7	2.39	2.3	3.5, b	I	4 n

Ref. Cat. 4h. No. 22. Lac. 1435. 7.2
4h 18m 33s — 41° 27′.2.
A — (B + C) = *h* 3646

1900.03	137°.2	38″.1	...	...	I	
1900.03	137.0	37.4	...	...	L	
1900.03	137.1	37.8	[1.8]	...	Cape	2 n

B—C = Innes 272

1900.03	184°.0	...	...	...	I	
1900.99	198.6	1.24	1.0	...	„	
1900.51	191.3	1.24	1.0	...	I	2–1 n

Innes 384. Piazzi 4h 81. 6.2
4h 19m 28s — 35° 46′.7.

1900.11	185°.2	18″.3	6.8	...	I	
1900.99	188.8	19.1	7.3	...	„	
1900.55	187.0	18.7	7.0	...	I	2 n

Ref. Cat. 4h. No. 26. Piazzi 4h 92. 6.4
4h 21m 14s — 34° 59′.0.
A and C.P.D.—35°,482

1900.09	198°.0	42″.2	3.4	...	I	1 n

C.P.D.—35°,482 = Innes 59

1900.09	278°.7	4″.27	0.5	...	I	
1900.99	284.0	3.78	1.0	...	„	
1900.54	281.3	4.02	0.8	...	I	2 n

The p.m. of A is o″.14 towards 224°.5.

Ref. Cat. 4h. No. 27. Rumker 4. 6.5
4h 22m 15s — 57° 17′.8.

This 6″ pair, in which the angle is slowly increasing (9° in 67 years), has a common p.m. of o″.154 to 243°.1.

Digitized by Google

Innes 413. **C.Z. 4h 727.** MAG. **7.8**
4h 23m 21s — 24° 40′.8.

1903.16	349°.8	0″.80	0.8	...	I	1 n

About 25′ S.f. β 311.

Ref. Cat. 4h. No. 32. **Innes 154.** **7.5**
4h 27m 37s — 35° 59′.3.

1900.11	317°.3	0″.5±	...	...	I	
1900.99	319.7	0.61	0.1	...	,,	
1900.55	318.5	0.61	0.1	...	I	2-1 n

Cape 28. **C.P.D.—50°, 615.** **9.1**
4h 34m 7s — 50° 21′.0.

1901.01	279°.4	6″.61	0.3	...	I	
1901.05	278.7	6.20	0.5	...	,,	
1901.03	279.0	6.40	0.4	...	I	2 n

Found at the Transit Circle by Mr J. A. J. Pead.

Ref. Cat. 4h. No. 39. ***h* 3672.** **8.3**
4h 34m 59s — 35° 29′.9.

1900.09	299°.2	4″.22	...	...	I	
1900.99	301.2	4.70	0.7	...	,,	
1901.01	300.5	4.25	1.0	—, 4	,,	
1900.70	300.3	4.39	0.8	—, 4	I	3 n

The increase in angle is 11° in 64 years.

Ref. Cat. 4h. No. 42. **α Cæli.** **4.5**
4h 37m 20s — 42° 3′.3.

1901.05	112°.7	5″.83	7.5	...	I	
1901.76	111.0	5.79	7.0	2, —	,,	
1901.41	111.9	5.81	7.2	2, —	I	2 n

P.m. = 0″.18 towards 244°.3.

Ref. Cat. 4h. No. 43. **Innes 60.** **8.7**
4h 38m 6s — 45° 53′.8.

1900.09	95°.3	2″.72	0.2	...	I	
1900.99	96.7	2.71	0.2	...	,,	
1901.01	95.6	2.34	0.2	...	,,	
1900.70	95.9	2.59	0.2	...	I	3 n

Ref. Cat. 4h. No. 44. ***h* 3683.** MAG. **6.4**
4h 38m 39s — 59° 8′.5.

1903.16	80°.6	1″.54	0.1	3, 3	I	1 n

There is no change in the angle, but the distance is decreasing. *h* 1836 gives 3″.82.

Ref. Cat. 4h. No. 46. **Cordoba [9].** **7.4**
4h 39m 4s — 48° 0′.9.

1903.16	234°.8	3″.73	2.0	2, b	I	1 n

Fixed, but common p.m. of 0″.094 towards 238°.1.

Ref. Cat. 4h. No. 49. ***h* 3696.** **8.4**
4h 45m 58s — 56° 10′.9.

A—B

1901.01	291°.1	3″.07	1.0	...	I	
1901.05	290.6	3.55	0.7	...	,,	
1901.03	290.8	3.31	0.8	...	I	2 n

Increase of 24° in angle in 66 years, probably due to p.m. in one of the stars.

A fainter companion was picked up and measured as follows :—

A—C

1901.05	117°.3	9″±	5.2	...	I	1 n

Ref. Cat. 4h. No. 51. **Cordoba [10].** **7.5**
4h 46m 9s — 50° 3′.5.

1901.01	256°.3	4″.51	3.0	...	I	
1903.16	258.4	4.82	2.5	2, b	,,	
1902.08	257.3	4.66	2.8	2, b	I	2 n

In 1897, Prof. See measured the chief star as a 0″.4 double; on 1901.01, it was certainly single as seen here.

Ref. Cat. 4h. No. 52. **Cordoba [11].** **8.0**
4h 46m 42s — 39° 21′.2.

1900.17	51°.4	4″.06	...	...	I	
1900.99	52.2	3.72	...	...	,,	
1900.58	51.8	3.89	[0.7]	...	I	2 n

This pair was first seen at Madras in 1865.

Digitized by Google

Ref. Cat. 4h. No. 53. h 3697. MAG. 6.0
Piazzi 4h. No. 230.
4h 47m 1s — 41° 29′.6.

This wide pair has a common p.m. of 0″.11 towards 328°.0.

Innes 342. Lac. 1637. 7.5
4h 47m 23s — 54° 3′.6.

1900.22	176°.5	1″.11	0.6	...	I	
1903.16	175.5	0.91	0.5	3, 3	,,	
1901.69	176.0	1.01	0.6	3, 3	I	2 n

Innes 343. Lac. 1641. 7.8
4h 47m 40s — 54° 37′.5.

1900.22	45°.3	2″.58	3.7	...	I	
1903.16	45.6	2.56	3.5	...	,,	
1901.69	45.4	2.57	3.6	...	I	2 n

Ref. Cat. 4h. No. 54. h 3699. 7.7
4h 47m 44s — 45° 50′.3.

1900.09	142°.7	17″.8	4.3	...	I	
1900.17	142.4	18.2	4.8	...	,,	
1900.13	142.6	18.0	4.5	...	I	2 n

The only complete measures.
The angle is unchanged since 1835.

Ref. Cat. 4h. No. 56. Innes 273. MAG. 9.0
4h 48m 3s — 45° 5′.7.

1900.09	351°.1	1″.40	0.0	...	I	
1900.99	350.2	1.12	0.1	...	,,	
1900.54	350.6	1.26	0.1	...	I	2 n

Ref. Cat. 4h. No. 59. λ 42. 6.6
4h 49m 2s — 51° 53′.6.

1903.16. Single. I

In 1897, Prof. See gave 0″.43 on .1 n.
The p.m. is very small.

Ref. Cat. 4h. No. 61. h 3707. 9.2
4h 51m 29s — 59° 55′.2.

1900.17	269°.0	8″.75	3.5	...	I	
1903.16	270.6	8.50	3.0	...	,,	
1901.66	269.8	8.62	3.2	...	I	2 n

h:—Attached to the nebula *h* 2678.
No nebulosity seen. 1900.17.
Not noticed. 1903.16.

Innes 344. C.Z. 4h 1849. 8.5
4h 54m 13s — 51° 36′.4.

1900.22	18°.2	1″.84	1.5	...	I	
1900.98	24.7	1.75	3.0	...	,,	
1900.60	21.5	1.79	2.3	...	I	2 n

The p.m. is insensible.

Digitized by Google

Ref. Cat. 5h. No. 1. Innes 274. MAG. 8.0
5h 0m 20s — 50° 55′.8.

1900.03	257°.9	3″.19	...	...	I	
1900.03	257.1	3.22	...	...	L	
1900.03	257.0	3.25	...	...	Gill	
1900.07	258.3	3.12	..	...	L	
1903.16	259.4	3.34	1.7	2, b	I	
1900.66	257.9	3.22	1.7	2, b	Cape	5 n

Some signs of p.m., viz.:—
C.Z.—Cape 1899. $\Delta\alpha = +0^s.21$. $\Delta\delta = +5''.5$.

Ref. Cat. 5h. No. 2. Cordoba [12]. 8.4
5h 1m 39s — 40° 42′.5.

1903.16	242°.2	2″.01	0.3	1, 1	I	
1903.18	241.5	2.27	0.5	...	„	
1903.17	241.8	2.14	0.4	1, 1	I	2 n

Preceded by two stars of 8.9 and 8.5 mags.

Ref. Cat. 5h. No. 12. κ Leporis. 4.4
5h 8m 37s — 13° 3′.6.

1900.12	359°.9	2″.53	[2.7]	...	L	1 n

Ref. Cat. 5h. No. 14. Rigel. 0.3
5h 9m 44s — 8° 19′.0.

1900.12	202°.9	9″.32	[7.7]	...	L	1 n

Ref. Cat. 5h. No. 19. C.Z. 5h 381. 8.3
5h 11m 40s. — 29° 37′.5.

1900.07	237°.2	2″.45	[0.5]	...	L	1 n

Ref. Cat. 5h. No. 20. *h* 3743. 8.5
5h 11m 48s. — 60° 6′.1.

1903.16	131°.0	5″.06	2.0	b, 2	I	
1903.18	131.7	5.17	1.5	...	„	
1903.17	131.4	5.11	1.7	b, 2	I	2 n

h in 1836 has 120°.9.

Ref. Cat. 5h. No. 22. Cordoba [13]. MAG. 8.8
5h 14m 2s — 27° 35′.6.

1900.21	93°.8	3″.32	0.2	...	I	
1903.16	274.0	3.21	0.4	...	„	
1901.68	273.9	3.26	0.1	...	I	2 n

Ref. Cat. 5h. No. 23. Innes 61. 7.8
5h 15m 14s — 41° 8′.9.

1903.22	100°.5	0″.91	0.5	1, 1	I	1 n

Earlier measures are:—

1897.1	95°.5	0″.64	See	2 n
1899.9	96.5	0.59	Cogshall	1—a

Ref. Cat. 5h. No. 30. Bradley 757. 7.2
5h 18m 46s — 0° 57′.6.

1900.10	167°.1	2″.15	[0.1]	...	L	1 n

Ref. Cat. 5h. No. 34. Innes 275. 8.2
5h 19m 52s — 36° 46′.2.

1900.09	3°.1	1″.67	...	...	I	
1900.21	0.2	1.55	0.5	...	„	
1900.15	1.7	1.61	0.5	...	I	2 n

Innes 414. κ Pictoris. 6.4
5h 20m 32s — 56° 14′.9.

1902.0	60°±	0″.5±	0.1	...	I	7-in.
1903.16	Not elongated		...		„	18-in.
1903.22	Certainly single		...		„	„

On the occasion of supposed discovery confirmed at the 18-in.
To be rejected as single.

θ Pictoris. 6.3
5h 22m 30s — 52° 24′.2.
A—B = Innes 345

1900.22	196°.7	0″.48	1.0	...	I	
1900.98	201.6	0.39	0.3	3, 3	„	
1901.97	199.3	0.43	0.2	...	„	
1903.16	195.2	0.55	0.3	...	„	
1903.22	193.3	0.41	0.3	3, 3	„	
1901.91	197.2	0.45	0.4	3, 3	I	5 n

[contd.

Digitized by Google

AB—C = Dunlop 20 MAG.

1835.0	285°.8	35″±	...	...	*h*	1 n
1836.4	285.9	38.2	...	...	,,	2
1875.6	286.5	38.6	...	...	Sydney	2
1902.1	287.2	38.0	...	...	Doberck	2

The p.m. in α is uncertain; in δ = — 0″.12. Almost certainly a triple system.

Innes 390. Lac. [1873]. 8.5
5h 23m 17s — 58° 15′.3.

1901.01	101°.0	0″.44	0.1	3, 3	I	
1901.97	285.9	0.53	0.1	...	,,	
1901.49	103.4	0.48	0.0	3, 3	I	2 n

Innes 346. Piazzi 5h 122. 5.9
5h 23m 53s — 41° 1′.8.

1899.9	180°±	20″±	6.1	...	I	
1903.2	180°±	15″±	8.1	...	,,	

The companion is too faint to be seen unless the chief star is out of the field. The p.m. of the chief star is 0″.11 towards 347°.4.

Ref. Cat. 5h. No. 40. *h* 3768. 9.0
5h 26m 5s — 66° 40′.6.

1900·21 Nebula with star N.f. I

The nebula is too diffused to be measurable as a double star.

Ref. Cat. 5h. No. 41. Innes 276. 6.4
5h 27m 31s — 68° 42′.1.

1900.21	216°.2	Very poor		...	I	
1900.98	209.6	0.56	0.3	...	,,	
1900.59	212.9	0.56	0.3	...	I	2–1 n

Ref. Cat. 5h. No. 43. Innes 62. 8.0
5h 27m 48s — 47° 16′.5.

1900.21	173°.7	0″.86	0.4	...	I	
1900.98	180.1	0.77	0.3	...	,,	
1900.59	176.9	0.81	0.4	...	I	2 n

Ref. Cat. 5h. No. 49. *h* 3770. MAG. 7.6
5h 29m 23s — 24° 24′.1.

1903.16	16°.0	4″.21	3.0	3, b	I	
1903.28	16.9	4.14	3.5	...	,,	
1903.22	16.4	4.17	3.2	3, b	I	2 n

Previously:—

1835	10°.0	*h*	1 n
1898	20 .3	See	1

Ref. Cat. 5h. No. 52. Lac. 1922. 6.3
5h 29m 40s — 64° 0′.2.

1899.98	68°.3	9″.15	4.4	...	I	
1900.98	68.6	8.06	...	...	,,	
1900.48	68.4	8.61	4.4	...	I	2 n

Discovered by Prof. Bailey at Arequipa.
The p.m. of the chief star is 0″.022 towards 116°.9.

Ref. Cat. 5h. No. 67. *h* 3784. 8.2
5h 35m 22s — 46° 9′.0.

1900.14	60°.7	5″.68	[1.3]	...	L	1 n

This pair has a common p.m. of 0″.48 towards 199°.5.

Ref. Cat. 5h. No. 70. α Columbæ. 2.7
5h 36m 2s — 34° 7′.6.

1900.06	358°.0	11″.5	9.3	...	I	
1900.32	Not seen		...	...	,,	
1901.02	,,	,,	Good	...	,,	

Previous observations are:—

1896.0	360°±	6″±	11.0	...	Bailey	1 n
1898.0	13.3	8.10	...	...	See	1 n

The measure of 1900.06 was made before Prof. Bailey's estimate was published, and is, I believe, reliable.

P.m. of α Columbæ = 0″.069 towards 115°.8.

Innes 347. Lac. 2022. 8.0
5h 36m 18s — 75° 17′.9.

1900.11	127°.2	8″.95	3.0	...	I	
1901.01	129.0	9.10	4.0	...	,,	
1900.56	128.1	9.02	3.5	...	I	2 n

Digitized by Google

Ref. Cat. 5h. No. 72. Innes 277. MAG. 8.0
5h 36m 38s — 71° 11′.8.

1899.98	187°.6	4″.29	...	...	I	
1900.11	192.2	3.56	...	2, b	,,	
1900.04	189.9	3 92.	[2.9]	2, b	I	2 n

Ref. Cat. 5h. No. 77. Innes 278. 8.5
5h 42m 37s — 68° 45′.3.

1900.11	170°.0	1″.06	...	...	I	
1903.16	173.9	1.29	2.5	...	,,	
1903.22	174.5	1.12	2.5	...	,,	
1902.16	172.8	1.16	2.5	...	I	3 n

Ref. Cat. 5h. No. 80. Innes 279. 8.5
5h 42m 59s — 43° 18′.2.

1901.02	9°.4	0″.86	0.7	...	I	
1903.16	359.8	0.73	1.5	3, 3	,,	
1903.22	1.6	0.66	2.0	...	,,	
1903.22	4.7	0.86	2.0	...	,,	
1902.66	3.9	0.78	1.6	3, 3	I	4 n

Ref. Cat. 5h. No. 81. *h* 3802. 8.1
5h 43m 24s — 55° 45′.7.

1900.05	307°.8	8″.01	[1.5]	...	L	1 n

Fixed.

Ref. Cat. 5h. No. 84. Jacob [3]. 5.8
5h 45m 4s — 14° 30′.8.

1900.12	179°.6	2″.56	[2.0]	...	L	1 n

Ref. Cat. 5h. No. 86. Innes 63. 7.1
5h 45m 39s — 48° 57′.0.
A—B

1900.03	14°.6	1″.56	...	...	I	
1900.12	8.5	1.33	...	...	,,	
1903.22	12.5	1.19	1.8	...	,,	
1901.12	11.9	1.36	1.8	...	I	3 n

[contd.

A—C

1900.03	212°.3	30″.9	5.2	...	I	
1900.12	210.6	32.4	4.7	...	,,	
1903.22	209.6	32.3	6.5	...	,,	
1901.12	210.8	31.9	5.5	...	I	3 n

A 10th mag. star is 90″ S.f.

Ref. Cat. 5h. No. 88. *h* 3807. 8.3
5h 48m 30s — 41° 42.4.

1901.02	273°.1	5″.07	2.0	4, B	I	
1903.16	270.8	5.15	2.7	2, b	,,	
1902.09	272.0	5.11	2.4	3, b	I	2 n

Innes 348. Ö.A. 4412. 9.0
5h 48m 59s — 29° 3′.3.

1901.02	60°.0	3″.98	1.5	...	I	
1901.14	61.0	4.20	2.5	...	,,	
1901.08	60.5	4.09	2.0	...	I	2 n

Two 12th mag. stars 3″ apart are 1′ N.

Ref. Cat. 5h. No. 89. Innes 64. 5.6
5h 49m 9s — 37° 39′.2.
A—B

1899.98	233°.6	18″.1	5.4	...	I	
1900.12	232.4	19.3	5.4	...	,,	
1900.05	233.0	18.7	5.4	...	I	2 n

A—C

1899.98	16°.1	44″.7	5.9	...	I	1 n

The p.m. of A is about 0″·06 towards 200°.

Ref. Cat. 5h. No. 90. Innes 16. 6.6
5h 49m 27s — 38° 32′.9.

1901.02	123°.1	1″.14	4.0	4, b	I	1 n

Digitized by Google

Ref. Cat. 5h. No. 95. Innes 155. MAG. 8.0
5h 55m 33s — 33° 49′.6.

A—B

1900.21	15°.6	1″.70	...	...	I	
1900.28	21.3	1.68	...	...	„	
1900.24	18.4	1.69	[2.0]	...	I	2 n

We also have :—

1898.1	19°.6	1″.98	...	...	See	1 n

A—C

1900.21	97°.2	18″.0	3.3	...	I	1 n

Ref. Cat. 5h. No. 97. *h* 3823. MAG. 7.5
5h 56m 37s — 31° 2′.8.

1849.93	131°.6	3″.94	0.0	Pearly	T.M.	
1850.83	131 4	...	0.0	...	„	
1850.90	131.7	4.13	0.0	...	„	
1854.90	129.0	3.91	...	...	„	
1851.64	130.9	3.99	0.0	Pearly	T.M.	4–3 n

Digitized by Google

Ref. Cat. 6h. No. 3. h 3834. MAG. 5.8
6h 1m 48s — 45° 4′.7.

1900.14	225°.8	4″.04	[2.9]	...	L	1 n

Ref. Cat. 6h. No. 4. Dunlop 23. 6.4
6h 2m 11s — 48° 26′.9.

1901.01	39°.3	1″.79	0.4	...	I	
1901.02	41.0	1.55	...	...	„	
1901.01	40.1	1.67	0.4	...	I	2 n

We also have:—

1902.3	43°.8	1″.97	0·5	...	Tebbutt	5 n

Ref. Cat. 6h. No. 9. Innes 280. 9.0
C.Z. 6h 263.
6h 6m 42s — 46° 19′.7.

1900.03	279°.4	9″.01	2.5	...	I	
1900.10	276.5	9.07	4.5	...	L	
1900.12	276.7	8.30	...	...	I	
1900.08	277.5	8.79	3.5	...	Cape	3 n

There is a very faint pair about 50″ N. f. C.Z. 6h 266, 9.0 mag., red, is 4s f.

Innes 349. Lac. 2198. 7.0
6h 10m 39s — 29° 34′.4.

1900.32	41°.4	5″.79	...	...	I	
1901.02	44.7	[6.96]	...	...	„	
1902.30	45.1	5.87	...	...	„	
1901.21	43.7	5.83	[4.0]	...	I	3–2 n

The distance of 1901.02 is rejected in the mean.

Ref. Cat. 6h. No. 17. Innes 3. 6.9
6h 11m 30s — 61° 26′.7.

1901.02	5°.9	0″.75	0.3	3, 3	I	
1901.97	8.1	0.82	0.4	...	„	
1901.50	7.0	0.79	0.4	3, 3	I	2 n

Cape 23. C.Z. 6h 499. MAG. 8.5
6h 11m 49s — 49° 4′.8.

1900.28	62°.7	cloud	...	...	I	
1901.01	63 0	4″.44	1.0	...	„	
1902.30	63.5	5.32	...	4, b	„	
1901.20	63.1	4.88	1.0	4, b	I	3–2 n

h 3845. Piazzi 6h 59. 7.0
6h 12m 51s — 22° 40′.3.

1902.30	20°.1	35″.1	[2.6]	2, —	I	1 n

Ref. Cat. 6h. No. 23. Innes 281. 8.7
6h 17m 50s — 44° 44′.7.

1900.06	5°.8	6″.47	...	3, —	I	
1900.12	7.5	6.21	...	...	„	
1901.05	7.7	6.40	1.3	2, 7	„	
1901.14	6.9	6.23	2.2	...	„	
1900.59	7.0	6.33	1.8	2, 7	I	4 n

The p.m. of the chief star is 0″.23 towards 90°.

Cape 39. G.P.Z. 3956. 9.4
6h 18m 34s — 73° 26′.4.

1903.16	260°.5	5″.97	1.0	...	I	
1903.18	259.3	5.01	1.3	...	„	
1903.17	259.9	5.49	1.1	...	I	2 n

Found by Mr W. H. Cox at the Transit Circle.

This pair forms the f. corner of the base of an isoceles triangle, a bright star at the apex.

h 3856. Lac. 2267 and C.P.D. —45°,841. 6.8
6h 20m 4s — 45° 34′.6.

1901.14	4°.0	34″.4	3.0	4, b	I	1 n

Mag. of the chief star is 7.8 in the C.P.D.

Digitized by Google

Ref. Cat. 6h. No. 28. Innes 282. MAG. 7.7
6h 21m 41s — 50° 28′.5.

1900.06	312°.5	1″.84	...	...	I	
1901.02	316.4	1.50	2.0	2, b	,,	
1901.97	312.4	1.39	2.5	...	,,	
1901.02	313.8	1.58	2.2	2, b	I	3 n

The p.m. is insensible.

Ref. Cat. 6h. No. 31. G Puppis. 6·0
6h 23m 5s — 48° 7′.0.

1899.99	130°.5	1″.67	...	...	I	
1900.12	136.2	...	...	...	L	
1900.12	134.6	1.36	...	...	I	
1900.14	132.7	1.20	...	...	,,	
1901.02	129.9	1.05	...	2, b	,,	
1901.97	136.8	1.33	...	...	,,	
1903.16	132.5	1.30	3.0	2, b	,,	
1900.73	133.3	1.32	3.0	2, b	Cape	7–6 n

In 1899 the companion was noted once as yellowish.
The only earlier measures are:—

1894.4	126°.4	1″.90	2.0	...	Bailey	2 n

In this set, one discordant observation is rejected.

Innes 350. Lac. (2315). 7.5
6h 26m 1s — 45° 42′.7.

1900.98	10°.4	16″.0	5.5	...	I	
1903.22	10.6	15.9	5.0	...	,,	
1902.10	10.5	16.0	5.2	...	I	2 n

This pair can be seen on the chart plate No. 5711.

Ref. Cat. 6h. No. 36. Lac. 2333. 5.3
6h 27m 22s — 50° 10′.1.

A—B = Sellors 7

1901.02	80°±	..	0.1	3, 3	I	
1903.16	260.6	0.61	0.2	3, 3	,,	
1903.22	261.6	0.66	0.0	4, 4	,,	
1903.19	261.1	0.64	0.0	3, 3	I	2 n

C—D = Harvard

1901.02	105°.1	0″.3±	0.1	...	I	1 n
1903.16	120.4	0.41	0.0	6, 6	I	
1903.22	115.1	0.40	...	7, 7	,,	
1903.19	117.8	0.40	0.0	6½, 6½	I	2 n

[contd.

For C—D, Prof. Bailey gives:—

1894.3	255°±	0″.3±	

If the angle can be read 75°—the two stars are all but equal in magnitude—we have a case of angle increasing about 5° a year.

A B—C D = Dunlop 30.

Ref. Cat. 6h. No. 40. β 754. 6.8
6h 31m 5s — 33° 55′.8.

1902.30	33°.3	1″.09	0.1	2, 2	I	
1903.16	35.7	0.85	0.3	3, 3	,,	
1903.22	37.0	0.89	0.5	...	,,	
1902.89	35.3	0.94	0.3	2½, 2½	I	3 n

Change uncertain.
Common p.m. of 0″.118 towards 312°.6.

Ref. Cat. 6h. No. 41. Innes 178. 8.3
6h 31m 12s — 32° 13′.6.

1903.16	201°.7	0″.86	2.0	...	I	
1903.22	204.6	0.74	...	...	,,	
1903.19	203.1	0.80	2.0	...	I	2 n

Previously we find:—

1897.3	205°±	0″.8±	I	2 n
1898.2	225.3	0.36	See	1

Cordoba. C.Z. 6h 1518. 7.6
6h 33m 13s — 48° 11′.8.

1903.16	202°.0	10″.7	2.0	2, b	I	
1903.22	200.4	10.7	1.7	3, b	,,	
1903.19	201.2	10.7	1.8	2½, b	I	2 n

Ref. Cat. 6h. No. 45. Dunlop 31. 5.0
6h 35m 58s — 48° 7′.8.

1902.30	319°.4	12″.9	...	4, b	I	
1903.16	319.2	13.5	2.0	4, b	,,	
1902.73	319.3	13.2	2.0	4, b	I	2 n

Digitized by Google

Ref. Cat. 6h. No. 47. Innes 5. MAG. 6.3
6h 36m 56s — 61° 26′.7.

1900.14	268.8	2.71	...	...	I	
1900.32	273.7	3.07	2.5	—, 5	„	
1900.23	271.3	2.89	2.5	—, 5	I	2 n

In the *M. N. R. A. S.* the means printed suffer from arithmetical errors.

Ref. Cat. 6h. No. 51. Cordoba [15]. 8.7
6h 38m 41s — 37° 54′.4.

A—B

1900.12	278.2	3.94	1.3	...	I	
1900.32	277.3	4.28	...	...	„	
1900.22	277.8	4.11	1.3	...	I	2 n

A—C. New

1900.12	149.7	19.0	3.3	...	I	
1900.32	148.9	19.6	...	...	„	
1900.22	149.3	19.3	3.3	...	I	2 n

Ref. Cat. 6h. No. 53. Innes 283. 8.0
6h 39m 21s — 42° 28′.4.

1900.03	179.6	2.50	...	...	I	
1900.32	184.1	2.73	...	...	„	
1900.18	181.8	2.61	[2.0]	...	I	2 n

Ref. Cat. 6h. No. 55. Innes 179. 6.6
6h 41m 13s — 30° 28′.9.

1900.03	224.2	4.89	...	...	I	
1900.32	226.2	3.98	...	...	„	
1901.13	226.7	4.51	2.5	3, b	„	
1900.49	225.7	4.46	2.5	3, b	I	3 n

Other measures are:—

1897.8	204.8	5.40	See	1 n
1898.2	223.1	4.35	Hough	2

The first of these seems to require +20°.

Ref. Cat. 6h. No. 57. Innes 284. MAG. 8.5
6h 41m 35s — 64° 25′.4.

1900.06	232.7	5.80	...	...	I	
1900.14	234.5	5.82	...	...	„	
1901.14	236.0	5.99	2.5	2, —	„	
1900.44	234.4	5.87	2.5	2, —	I	3 n

Ref. Cat. 6h. No. 58. *h* 3891. 6.0
6h 41m 42s — 30° 50′.6.

1900.03	224.2	5.04	...	...	I	
1900.17	225.0	5.04	...	...	L	
1900.32	221.8	...	...	...	I	
1901.05	224.0	4.61	2.9	1, B	„	
1900.39	223.8	4.90	2.9	1, B	Cape	4–3 n

Innes 351. Lac. 2515. 6.4
6h 42m 28s — 71° 40′.3.

1900.18	335.6	10.6	...	...	I	
1901.14	332.1	10.9	3.5	4, —	„	
1900.66	333.8	10.7	3.5	4, —	I	2 n

Another *comes*, 11.3 mag., 20°± 40″±.

Ref. Cat. 6h. No. 59. Innes 180. 8.5
6h 42m 29s — 52° 19′.1.

A—B

1899.99	326.7	1.16	1.5	...	I	
1900.98	338.1	0.72	0.7	0, 0	„	
1901.01	342.8	0.78	0.5	0, 0	„	
1903.16	336.5	0.81	1.0	...	„	
1901.29	336.0	0.87	0.9	0, 0	I	4 n

A—C

1899.99	243.4	43.7	...	...	I	
1900.98	242.8	42.9	...	...	„	
1901.01	243.1	42.9	4.5	...	„	
1900.66	243.1	43.2	4.5	...	I	3 n

Digitized by Google

Ref. Cat. 6h. No. 64. Innes 157. MAG. 6.4
6h 44m 39s — 54° 35′.1.

1900.18	348°.3	1″.42	...	...	I	
1901.07	352.4	...	2.5	...	,,	
1903.16	343.6	1.92	3.0	2, b	,,	
1901.47	348.1	1.67	2.8	2, b	I	3–2 n

Ref. Cat. 6h. No. 65. Innes 158. 7.2
6h 44m 44s — 48° 27′.2.

1901.07	185°.9	2″.07	3.0	2, —	I	
1903.22	184.0	1.69	3.5	3, b	,,	
1902.14	185.0	1.88	3.2	2½, b	I	2 n

The p.m. is insensible.

Ref. Cat. 6h. No. 71. Innes 181. 8.0
6h 46m 55s — 44° 56′.1.

1901.97	254°.4	0″.79	0.2	...	I	
1903.22	255.0	0.68	1.0	0, 0	,,	
1902.60	254.7	0.74	0.6	0, 0	I	2 n

Ref. Cat. 6h. No. 72. Innes 182. 8.0
6h 47m 3s — 28° 35′.5.

1901.13	141°.4	0″.74	0.5	...	I	
1903.22	136.3	0.79	2.0	0, 0	,,	
1902.18	138.9	0.76	1.7	0, 0	I	2 n

Three faint stars 60″ ± N.

Ref. Cat. 6h. No. 73. Innes 159. 6.4
6h 47m 3s — 45° 19′.9.

1900.12	324°.8	5″.97	...	6, B	I	
1901.14	322.5	6.55	...	6, B	,,	
1900.63	323.6	6.26	[4.1]	6, B	I	2 n

Innes 431. Yarnall$_3$ 2845. 8.5
6h 47m 10s — 28° 36′.9.

1903.22	321°.5	0″.37	0.0	...	I	1 n

Very difficult.

This is the chief star of the old pair *h* 3896, viz.:—

1835.1	161°.0	12″ ±	0.0	...	*h*	1 n

Ref. Cat. 6h. No. 75. Cordoba [16]. MAG. 8.4
6h 48m 45s — 35° 10′.1.

1900.17	110°.4	2″.88	[0.3]	...	L	1 n

Ref. Cat. 6h. No. 76. Cape 19. 9.0
6h 48m 50s — 47° 37′.8.

1901.14	121°.4	2″.49	0.0	0, 0	I	1 n

Innes 432. Ö.A. 5945. 7.8
6h 52m 58s — 28° 35′.9.

1903.22	213°.2	1″.65	0.0	...	I	1 n

Ref. Cat. 6h. No. 83. Innes 65. 6.3
6h 53m 43s — 35° 22′.5.

1900.01	184°.?	perhaps elongated			I	
1900.06	184.9	0.3 ±	in contact		,,	
1900.98	192.6	0.25±	elongated		,,	
1901.13	191.8	0.46	0.1	3, 3	,,	
1901.97	208.3	[0.72]	...	...	,,	
1902.30	207.6	not too sure			,,	
1903.16	213.7	0.26	0.0	4, 4	,,	
1903.16	219.0	0.28	...	...	,,	
1903.22	216.3	0.35	...	3, 3	,,	

The most southern of a group of four stars.

All the observations of this close pair, including means of the above observations, are as follows:—

1897.1	155°±	0″.6±	I	2 n
1898.3	190.3	0.26	See	1
1900.1	184.9	0.3±	I	1
1901.1	192.2	0.46	,,	2–1
1902.1	208.0	[0.72]	,,	2–1
1903.2	216.3	0.30	,,	3

If we assume an increase of angle of 10° a year, we have the following comparison:—

Date.	Obs.	Cal.	O.—C.
1897.1	155°	155°.0	0°.0
1898.3	190.3	167.2	+23.1
1900.1	184.9	185.0	− 0.1
1901.1	192.2	195.0	− 2.8
1902.1	208.0	205.0	+ 3.0
1903.2	216.3	216.1	+ 0.2

Probably a binary with a period of 30 to 40 years.

Found with the 6.9-inch Merz refractor.

Digitized by Google

Ref. Cat. 6h. No. 84. ε Canis Majoris. MAG. 1.7
6h 54m 42s — 28° 50′.2.

1850.10	161.5	7.48	8.5	...	T.M.	
1850.11	160.0	7.91	...	...	,,	
1850.10	160.7	7.70	8.5	...	T.M.	2 n

Ref. Cat. 6h. No. 85. Innes 66. 7.7
6h 54m 42s — 35° 17′.0.

1901.13	253.9	1.81	1.3	2, —	I	1 n

Ref. Cat. 6h. No. 89. Innes 183. MAG. 7.5
6h 56m 42s — 25° 30′.2.

1902.01	143.7	3.40	2.2	1, 5	I	
1902.30	150.2	3.31	2.5	...	,,	
1902.16	147.0	3.35	2.3	1, 5	I	2 n

Ref. Cat. 6h. No. 91. *h* 3932. 7.3
6h 58m 52s — 77° 38′.8.

1901.13	283.3	8.24	2.0	1, b	I	
1901.14	284.3	8.71	...	1, b	,,	
1901.13	283.8	8.48	2.0	1, b	I	2 n

Digitized by Google

Ref. Cat. 7h. No. 10. Innes 184. MAG. 8.0
7h 7m 46s — 60° 24′.8.

A — B

1899.99	177.3	1.11	0.5	...	I	
1900.11	175.6	0.81	...	...	„	
1900.22	174.7	0.65	0.3	...	„	
1901.13	183.5	0.89	...	0, 0	„	
1901.97	181.4	0.72	...	...	„	
1902.21	179.1	poor	...	...	„	
1903.16	182.1	0.75	...	...	„	
1903.16	177.2	0.68	0.5	...	„	
1903.22	178.6	0.69	0.3	...	„	
1901.69	178.8	0.79	0.4	0.0	I	9–8 n

A — C

1899.99	339.4	24.2	3.1	...	I	
1900.22	340.1	24.9	3.6	...	„	
1900.11	339.8	24.5	3.3	...	I	2 n

The close pair shows no sign of motion.
This pair is 12′ S.pr. *h* 3941.

Ref. Cat. 7h. No. 11. Hargrave 9. 7.5
7h 7m 53s — 56° 12′.4.

1900.38	221.6	1.8 ±	...	...	I	
1902.01	219.9	1.42	1.0	...	„	
1901.20	220.8	1.42	1.0	...	I	2–1 n

Ref. Cat. 7h. No. 13. *h* 3941. 6.9
7h 8m 2s — 60° 13′.0.

1899.99	300.8	1.66	...	...	I	
1900.11	302.0	0.96	...	...	„	
1900.22	303.1	1.03	0.3	...	„	
1901.97	303.0	0.98	...	4, 4	„	
1900.57	302.2	1.16	0.3	4, 4	I	4 n

No certain change.

Ref. Cat. 7h. No. 16. γ Volantis. 3.8
7h 9m 36s — 70° 20′.2.

This 13″ pair has a common p.m. of 0″.127 towards 18°.6.

In 1883 the smaller star was suspected double at the Sydney Observatory. Not confirmed here.

Harvard. Lac. 2735. MAG. 6.0
7h 11m 6s — 63° 1′.1.

1900.28	164.9	0.5 ±	0.3	...	I	
1903.16	156.8	0.59	0.4	1, 1	„	
1903.22	149.6	0.48	0.5	3, 3	„	
1902.22	157.1	0.53	0.4	2, 2	I	3–2 n

Identical for all practical purposes with Prof. Bailey's measure of 1894, viz. :—

157°.0 0″.50

This star is entered erroneously under 7a, page 304A in the Ref. Cat.

Ref. Cat. 7h. No. 22. Lalande 14,200–2. 4.9
7h 12m 24s — 23° 8′.2.

1902.35	60.6	27.3	colours very fine		I	
1902.36	60.6	27.3	...	...	„	
1902.36	60.6	27.3	[1.5]	[5, B]	I	2 n

Ref. Cat. 7h. No. 24. τ Canis Majoris. 4.6
7h 14m 34s — 24° 46′.3.

1900.06	88.5	8.18	...	...	L	
1900.33	89.9	8.47	...	...	„	
1900.20	89.2	8.33	[5.2]	...	L	2 n

Ref. Cat. 7h. No. 25. Innes 7. 7.3
7h 14m 37s — 46° 48′.9.

1900.02	208.1	1.08	...	...	I	
1900.32	208.1	1.02	...	...	„	
1900.33	205.8	...	...	...	„	
1900.33	208.0	...	...	...	„	
1901.13	210.5	0.97	...	4, 4	„	
1901.97	208.1	0.97	...	...	„	
1903.22	212.0	1.10	...	4, b	„	
1901.04	208.7	1.03	[2·2]	4, —	I	7–5 n

Perhaps the angle is decreasing slowly, we find :—

1896.7 213.7 1.02 Sellors and See 8 n

Common p.m. of 0″·588 towards 341°·7.

Digitized by Google

Ref. Cat. 7h. No. 26. *h* 3949. MAG. 7.3
7h 14m 41s — 30° 36′.9.

1900.06	76°.5	3″.02	...	...	L	
1900.33	78.5	2.84	...	...	,,	
1900.20	77.5	2.93	[0.3]	...	L	2 n

Ref. Cat. 7h. No. 27. Jacob [4]. 8.6
7h 14m 59s — 36° 35′.1.

1900.06	211°.9	2″.84	...	...	L	
1900.33	211.7	2.86	...	...	,,	
1900.20	211.8	2.85	[0.2]	...	L	2 n

Ref. Cat. 7h. No. 28. Lalande 53. 7.6
7h 15m 4s — 21° 51′.8.

1900.06	345°.4	3″.95	[0.1]	...	L	1 n

Innes 391. C.P.D. — 21°,2034. 8.7
7h 15m 50s — 21° 41′.8.

1901.99	275°.7	4″.97	0.7	...	I	
1903.16	275.2	4.67	0.2	...	,,	
1902.57	275.4	4.82	0.4	...	I	2 n

A 13th mag. star, 30°±, 5″±.

Innes 312. Lac. 2846. 7.7
7h 18m 41s — 75° 41′.1.

1900.27	169°.9	1″.13	0.1	...	I	
1903.22	166.9	0.88	0.0	3, 3	,,	
1901.74	168.4	1.00	0.1	3, 3	I	2 n

Ref. Cat. 7h. No. 38. λ 78. 7.7
7h 18m 51s — 25° 34′.5.

A—B.

1900.08	288°.5	2″.15	1.8	...	I	1 n

C = 9 mag., D = 10 mag., seem unchanged.
A is very red.
A remarkable group.

Ref. Cat. 7h. No. 40. Lal. 14,480. MAG. 7.3
7h 20m 49s — 20° 58′.6.

A—B = β 199.

1900.10	21°.1	2″.10	[1.0]	...	L	1 n

A—C = Hough

1900.10	116°.4	7″.03	[5.3]	...	L	1 n

Innes 352. C.Z. 7h 1526 8.5
7h 22m 21s — 37° 57′.0.

1903.16	357°.0	0″.64	0.5	0, 0	I	
1903.22	356.2	0.70	0.7	0, 0	,,	
1903.19	356.6	0.67	0.6	0, 0	I	2 n

Ref. Cat. 7h. No. 47. Σ 1104. 6.8
7h 24m 49s — 14° 47′.1.

1900.10	330°.9	2″.13	...	...	L	
1901.08	332.1	2.25	...	...	,,	
1900.59	331.5	2.19	[1.8]	...	L	2 n

Ref. Cat. 7h. No. 51. *h* 3996. 7.6
7h 27m 48s — 84° 16′.8.

1900.08	253°.8	15″.9	2.4	...	I	
1901.14	254.8	16.3	3.5	...	,,	
1900.61	254.3	16.1	3.0	...	I	2 n

h has 1836.0, 248°.4, 2 n.
The p.m. is very small.

Ref. Cat. 7h. No. 52. Howe 7. 8.6
7h 29m 48s — 23° 29′.1.

1900.10	204°.4	1″.84	[1.0]	...	L	1 n

Ref. Cat. 7. No. 54. Lal. 14,834. 7.0
7h 31m 3s — 2° 56′.1.

Two components were observed on the same day on the meridian at Cordoba, as shown in the Ref. Cat.

There is a double star about 2m pr. = B.D. —2°,2180 mag. 9.0 which was seen here in 1898 and measured in 1900 :—

1900.17	148°.5	7″.51	...	...	L	1 n

Lal. 14,834 is single.

Digitized by Google

Ref. Cat. 7h. No. 55. Cordoba [71]. MAG. 7.7
7h 31m 6s — 66° 58′.1.

1900.33	194°.6	3″.89	2.3	...	I	
1902.01	191.2	3.24	...	4, b	,,	
1902.21	193.5	4.08	...	—, b	,,	
1901.52	193.1	3.74	2.3	4, b	I	3 n

Ref. Cat. 7h. No. 60. Innes 285. 8.8
7h 35m 32s — 48° 26′.5.

1902.35	138°.5	1″.04	1.0	...	I	1 n

Ref. Cat. 7h. No. 62. d_2 Puppis. 5.9
7h 36m 12s — 37° 54′.6.

1901.97	152°.7	1″.44	...	...	I	
1902.35	150.7	1.59	...	...	,,	
1902.16	151.7	1.51	[2.7]	...	I	2 n

A most difficult pair to measure.

Innes 353. Lac. (2915). 7.4.
7h 36m 29s — 43° 2′.9.

1902.30	215°.4	0″.98	0.2	0, 0	I	
1902.35	213.6	0.84	0.5	...	,,	
1902.32	214.5	0.91	0.4	0, 0	I	2 n

The p.m. is very small.

Ref. Cat. 7h. No. 63. Innes 185. 9.5
7h 36m 42s — 29° 52′.7.

1902.30	197°.8	2″.05	0.5	...	I	
1902.35	193.7	1.58	0.7	...	,,	
1902.32	195.7	1.81	0.6	...	I	2 n

Ref. Cat. 7h. No. 65. h 3997. 6.3
7h 37m 25s — 74° 2′.9.

1900.28	110°.3	2″.32	...	...	I	
1903.16	293.2	1.65	0.1	2, 2	,,	
1901.72	111.7	1.98	0.0	2, 2	I	2 n

An increase of angle at the rate of 1° every 6 years shown.

The p.m. is very small.

Innes 354. C.Z. 7h 2786. MAG. 7.5
7h 39m 24s — 42° 19′.8.

1902.35	124°.9	1″.14	1.6	...	I	1 n

The p.m. is very small.

Innes 392. C.P.D. — 30°,1991 9.0
7h 41m 22s — 30° 18′.2.

1901.09	1°.8	0″.88	0.3	...	I	1 n

Ref. Cat. 7h. No. 69. ζ Volantis. 4.0
7h 43m 3s — 72° 22′.0.

1901.15	116°.4	16″.7	...	3, B	I	
1902.01	116.0	17.1	...	...	,,	
1901.58	116.2	16.9	[5.7]	3, B	I	2 n

Ref. Cat. 7h. No. 70. 5 Puppis. 5.4
7h 43m 16s — 11° 56′.8.

1901.08	13°.2	3″.06	[2.6]	...	L	1 n

h 4003. Ö.A. 7442. 8.7
7h 43m 40s — 23° 56′.3.

1903.18	118°.0	31″.3	2.0	0, 6	I	
1903.18	116.1	31.1	1.5	1, 6	,,	
1903.18	117.0	31.2	1.7	½, 6	I	2 n

A 12·5 mag. star at 203°±, 35″±.
The change in A B is probably due to p.m.

Ref. Cat. 7h. No. 71. Innes 161. 5.3
7h 43m 53s — 38° 15′.8.

1902.35	83°.6	10″.5	4.0	...	I	
1903.18	84.5	10.6	4.0	1, b	,,	
1902.76	84.0	10.6	4.0	1, b	I	2 n

Ref. Cat. 7h. No. 72. Cape 20. 8.5
7h 44m 51s — 44° 17′.6.

1902.35	87°.2	3″.08	1.2	...	I	
1903.18	88.1	3.49	1.0	...	,,	
1902.76	87.7	3.28	1.1	...	I	2 n

Digitized by Google

MAG.

Ref. Cat. 7. No. 74. ξ Argûs. 3.4
7h 45m 5s — 24° 36′.5.

1903.18 241°±

Two careful estimations with the chief star out of the field. I 1 n

Motion = 52° in 14 years. Is β 1063.

Ref. Cat. 7h. No. 76. Innes 186. 7.4
7h 45m 27s — 30° 18′.3.

1901.09	198°.8	1″.10	0.2	...	I	
1901.99	198.7	0.94	0.2	...	,,	
1901.54	198.7	1.02	0.2	...	I	2 n

Ref. Cat. 7h. No. 83. Howe 8. 5.0
7h 48m 32s — 34° 27′.3.

1903.18	288°.0	3″.16	3.0	2, b	I	
1903.18	290.5	2.72	3.0	3, b	,,	
1903.18	289.2	2.94	3.0	2½, b	I	2 n

Fixed.

Ref. Cat. 7h. No. 84. b Puppis. 4.7
7h 49m 6s — 38° 36′.2.

1902.35 No companion seen I 1 n

Measured twice as λ 89 in 1897; it would seem, however, as if the measures really belonged to a star some way N. pr. = Ref. Cat. 7h No. 71.

Ref. Cat. 7h. No. 86. Innes 286. 8.6
7h 49m 46s — 47° 43′.4.

1901.09	292°.4	2″.44	0.1	0, 0	I	
1901.99	292.0	2.67	0.0	...	,,	
1901.54	292.2	2.55	0.1	0, 0	I	2 n

Ref. Cat. 7h. No. 88. h 4023. 7.5
7h 51m 17s — 70° 31′.2.

1901.15	219°.0	1″.54	0.2	...	I	
1901.99	221.4	2.00	0.2	b, 5	,,	
1901.57	220.2	1.77	0.2	b, 5	I	2 n

The only complete measures.

h has 1836.1, 229°.6.

MAG.

Ref. Cat. 7h. No. 90. Innes 162. 7.5
7h 52m 43s — 52° 38′.3.

1901.99 Single I 1 n

A faint and close companion was seen in 1897. This star should not be rejected unless further examination made under favourable circumstances is unsuccessful, as such companions are often very difficult to see.

Ref. Cat. 7h. No. 93. Innes 26. 6.1
7h 54m 22s — 47° 37′.3.

1901.09	30°.7	1″.02	0.6	3, 3	I	
1901.99	30.6	0.67	1.0	4, 4	,,	
1901.54	30.6	0.84	0.8	3½, 3½	I	2 n

Several very faint stars near, two S.

Ref. Cat. 7h. No. 96. Innes 29. 8.0
7h 55m 15s — 60° 19′.7.

1901.97	186°.3	3″.68	1.5	...	I	
1901.99	187.0	2.79	1.2	...	,,	
1901.98	186.7	3.23	1.3	...	I	2 n

There is a 12th mag. pair 2′± N. pr.

Ref. Cat. 7h. No. 99. β 333. 7.7
7h 56m 59s — 22° 3′.6.

A—B.

1903.17	43°.6	1″.74	2.5	...	I	
1903.18	46.7	1.92	2.5	...	,,	
1903.18	45.1	1.83	2.5	...	I	2 n

Fixed.

Ref. Cat. 7h. No. 100. Innes 163. 8.2
7h 57m 29s — 40° 17′.6.

1902.35 119°.4 0″.78 2.5 ... I 1 n

Ref. Cat. 7h. No. 102. Howe. 8.5
7h 57m 56s — 26° 58′.5.

1903.18 331°.1 2″.49 2.5 ... I 1 n

The only other measure found is:—

1877.1 320°.7 2″.04 3.0 ... Cinc. 1 n

Digitized by Google

Ref. Cat. 7h. No. 103. 7h 57m 59s				Innes 187. — 34° 12′.4.		MAG. 9.2
1902.16	13°.4	3″.17	2.5	...	I	
1902.35	12.4	3.90	3.0	...	,,	
1902.26	12.9	3.53	2.7	...	I	2 n

Ref. Cat. 7h. No. 104. 7h 58m 39s				Innes 188. — 34° 17′.1.		MAG. 9.3
1902.01	339°.5	2″.97	0.2	0, 0	I	
1902.16	338.7	2.87	0.3	...	,,	
1902.08	339.1	2.92	0.3	0, 0	I	2 n

The p.m., if any, is very small.

Digitized by Google

Ref. Cat. 8h. No. 1. *h* 4041. MAG. 7.8
8h 0m 41s — 22° 8′.9.

1903.17. No companion seen in *h*'s position. There is a 11m.5 star at 110°±, 30″± I

Ref. Cat. 8h. No. 3. Lac. 3146. 6.0
8h 1m 53s — 33° 17′.0.

A—B = *h* 4046.

1903.17	87°.2	22″.4	2.0	5, b	I	
1903.22	87.6	22.3	...	3, b	,,	
1903.20	87.4	22.3	2.0	4, b	I	2 n

A—C = Innes 189.

1903.17	59°.1	28″.0	4.0	...	I	
1903.22	57.6	27.8	...	...	,,	
1903.20	58.3	27.9	4.0	...	I	2 n

There is a faint pair, 270°±, 20″±.

Ref. Cat. 8h. No. 4. Innes 190. 7.7
8h 2m 27s — 54° 42′.3.

A—B.

1901.13	117°.7	2″.70	3.0	...	I	
1901.99	119.5	2.23	2.5	...	,,	
1901.56	118.6	2.46	2.8	...	I	2 n

A—C. (New).

1901.13	144°.0	24″.0	6.3	...	I	
1901.99	143.9	24.1	...	...	,,	
1901.56	143.9	24.0	6.3	...	I	2 n

Ref. Cat. 8h. No. 5. Innes 164. 7.5
8h 2m 44s — 39° 48′.7.

1902.27	77°.2	0″.64	1.0	3, 3	I	
1903.22	83.9	0.62	1.0	...	,,	
1902.74	80.6	0.63	1.0	3, 3	I	2 n

Ref. Cat. 8h. No. 11. Innes 191. 8.7
8h 5m 5s — 41′ 37′.4.

1902.35	199°.8	0″.99	0.7	...	I	1 n

Ref. Cat. 8h. No. 12. Ormond Stone. MAG. 8.2
8h 5m 30s — 26° 50′.4.

1900.18	261°.0	3″.35	...	...	L	
1900.27	261.4	3.28	...	...	,,	
1900.22	261.2	3.32	[1.0]	...	L	2 n

Fixed.

Ref. Cat. 8h. No. 16. Innes 165. 8.9
8h 6m 40s — 48° 53′.9.

1901.99	92°.8	0″.66	0.5	...	I	1 n

Ref. Cat. 8h. No. 18. Innes 192. 7.7
8h 8m 42s — 68° 41′.7.

1900.18	174°.7	2″.03	[1.9]	...	I	1 n

The p.m. is small.

Ref. Cat. 8h. No. 21. Innes 193. 8.1
8h 9m 57s — 34° 26′.1.

1903.17	103°.8	2″.68	2.0	...	I	
1903.18	103.9	2.28	1.0	...	,,	
1903.17	103.8	2.48	1.5	...	I	2 n

Ref. Cat. 8h. No. 22. C.Z. 8h 758. 8.6
8h 10m 15s — 37° 22′.5.

Original identification erroneous.
The N.f. of 2 stars in the finder field.

Ref. Cat. 8h. No. 25. Innes 166. 9.0
8h 11m 12s — 52° 4′.5.

A—B.

1902.16	239°.9	2″.16	2.0	...	I	1 n

A—C.

1902.16	277°.2	8″.40	3.0	...	I	1 n

The chief star is perhaps closely double.

Ref. Cat. 8h. No. 28. Innes 167. 8.5
8h 11m 56s — 62° 11′.1.

1901.13	232°.1	1″.15	0.5	0, 0	I	1 n

Digitized by Google

Cordoba [76] **C.Z. 8h 995.** MAG. 8.2
8h 13m 5s — 34° 33′.0.

1902.16	149.1	1.81	0.5	...	I	
1902.36	147.3	2.23	0.5	...	,,	
1902.26	148.2	2.02	0.5	...	I	2 n

A 12.5 mag. star 320°±, 18″±.
Some other faint stars near.

Ref. Cat. 8h. No. 32. **Howe 9.** 8.7
8h 13m 17s — 26° 57′.7.

1903.17	117.5	3.24	0.0	0, 0	I	
1903.18	118.7	3.27	0.1	...	,,	
1903.17	118.1	3.26	0.1	0, 0	I	2 n

There is a 13m star 20″± N.

Ref. Cat. 8h. No. 37. **Innes 9.** 6.7
8h 15m 55s — 73° 29′.9.

1900.18	312.4	...	0.1	...	I	
1902.36	308.9	0.78	0.1	2, 2	,,	
1901.27	310.6	0.78	0.1	2, 2	I	2–1 n

On neither of the above occasions could the 11th mag. star mentioned in the Ref. Cat. be seen.

Innes 194. **C.Z. 8h 1367.** 9.0
8h 17m 2s — 59° 52′.9.

1902.36	132.7	1.33	1.0	3, b	I	1 n

Innes 393. **Piazzi 8h 60.** 6.5
8h 18m 36s — 26° 1′.7.

1902.16	221.9	32.5	5.0	3, –	I	
1902.36	221.8	32.7	7.5	...	,,	
1902.26	221.8	32.6	6.2	3, –	I	2 n

The p.m. is insensible.
Near Hough 526.

Ref. Cat. 8h. No. 41. **B Velorum.** 4.9
8h 19m 27s — 48° 10′.2.

1900.18	141.5	1.22	1.0	...	I	
1901.99	141.0	0.92	2.5	...	,,	
1902.36	141.4	0.89	1.5	...	,,	
1901.51	141.3	1.01	1.7	...	I	3 n

The p.m. is 0″.02 towards 270°.0.

Cordoba . **Bris. 2035.** MAG. 7.5
8h 24m 28s — 40° 54′.8.

1902.16	107.0	5.86	...	...	I	
1902.36	107.2	6.44	2.5	...	,,	
1902.26	107.1	6.15	2.5	...	I	2 n

C. Z. 8h 1971, mag. 9.0, is 2 secs. f., 15″ N.

Innes 394. **C.Z. 8h 2087.** 8.0
8h 25m 52s — 38° 16′.3.

1902.36	189.4	0.70	0.7	...	I	1 n

The N.f. and brightest of a group of 3 stars.

Ref. Cat. 8h. No. 44. **Dunlop 70.** 5.2
8h 26m 5s — 44° 23′.4.

1850.02	349.3	4.61	2.5	...	T.M.	
1850.90	347.3	4.44	1.5	...	,,	
1854.91	346.4	4.46	...	...	,,	
1851.94	347.7	4.50	2.0	...	T.M.	3 n

Innes 313. **Lac. 3372.** 7.2
8h 27m 13s — 41° 10′.7.

1901.15	216.7	3.77	...	3, B	I	
1902.36	216.2	3.79	2.0	4, B	,,	
1901.76	216.4	3.78	2.0	3½, B	I	2 n

There is a 13m star 30″ ± pr.

Ref. Cat. 8h. No. 46. **Innes 168.** 6.5
8h 27m 17s — 44° 24′.0.

1902.35	79.4	3.47	3.5	...	I	
1902.36	78.7	3.21	...	...	,,	
1902.36	79.0	3.34	3.5	...	I	2 n

Ref. Cat. 8h. No. 45. ***h* 4106.**
C.Z. 8h 2233. 7.8
8h 27m 37s — 36° 21′.2.

1902.16	146.4	6.36	1.5	4, b	I	
1902.35	145.5	6.23	2.0	3, b	,,	
1902.26	146.0	6.30	1.7	3½, b	I	2 n

Angle increasing slowly, distance decreasing.
Identification in Ref. Cat. erroneous.

Digitized by Google

Ref. Cat. 8h. No. 47. *h* 4107. MAG 6.4
8h 27m 43s — 38° 43′.6.

1902.16	329°.1	4″.35	...	2, b	I	
1902.36	328.6	4.36	1.8	2, b	.,	
1902.26	328.9	4.36	1.8	2, b	I	2 n

Fixed.

Cordoba [77]. C.Z. 8h 2389. 8.2
8h 29m 18s — 50° 37′.8.

1903.18	100°.4	3″.49	1.6	3, b	I	
1903.18	98.2	3.58	1.0	3, B	„	
1903.18	99.3	3.53	1.3	3, b	I	2 n

Ref. Cat. 8h. No. 50. Innes 195. 6.0
8h 30m 43s — 37° 16′.0.

1900.18	40°.0	2″.29	...	...	L	
1900.33	44.8	2.32	...	...	„	
1900.26	42.4	2.30	[2.7]	[6, B]	L	2 n

The p.m. is small.

Innes 355. Ö.A. 8755. 8.2
8h 31m 48s — 20° 42′.8.

1901.99	39°.2	0″.75	0.3	4, 4	I	1 n

Ref. Cat. 8h. No. 52. Innes 68. 8.6
8h 32m 52s — 30° 28′.9.

1903.17	66°.8	7″.68	2.0	...	I	
1903.18	67.5	7.30	2.0	...	„	
1903.17	67.2	7.49	2.0	...	I	2 n

Innes 314. Lac. 3456. 6.1
8h 35m 33s — 36° 15′.3.

1900.38	239°.4	0″.96	2.5	...	I	1 n

Ref. Cat. 8h. No. 57. Harvard. 6.5
8h 35m 55s — 52° 44′.3.

1900.18	294°.4	22″.2	...	...	I	
1900.27	294.5	cloud	...	...	L	
1900.22	294.4	22.2	[8.0]	...	Cape	2–1 n

Ref. Cat. 8h. No. 60. Cordoba MAG. 8.0
[19].
8h 36m 46s — 31° 27′.3.

1903.17	330°.3	5″.60	3.0	...	I	
1903.18	327.2	5.33	2.5	3, b	.,	
1903.18	328.8	5.49	2.7	3, b	I	2 n

Ref. Cat. 8h. No. 61. *h* 4128. 6.4
8h 37m 6s — 59° 57′.8.

1850.02	218°.4	2″.13	1.0	o, o	T.M.	
1850.90	221.3	1.84	1.0	...	„	
1850.46	219.9	1.99	1.0	o, o	T.M.	2 n

***h* 4126. Lac. 3476. 5.9**
8h 37m 6s — 52° 42′.0.

1900.25	29°.3	16″.6	...	...	L	
1900.27	30.3	16.6	...	...	„	
1900.26	29.8	16.6	[3.5]	...	L	2 n

Previously :—

1834.3	28°±	15″±	3.5	...	*h*	1 n
1897.1	30.9	16.7	...	...	See	

Ref. Cat. 8h. No. 63. *h* 4130. 6.4
8h 38m 17s — 57° 11′.3.

1850.02	223°.5	4″.07	2.0	b, b	T.M.	
1850.90	219.5	3.53	3.0	b, r	„	
1850.46	221.5	3.80	2.5	b, —	T.M.	2 n

Innes 315. C.Z. 8h 3089. 8.5
8h 38m 26s — 42° 14′.3.

1903.18	166°.8	0″.99	0.2	...	I	1 n

Ref. Cat. 8h. No. 65. δ Argûs 2.0
8h 41m 56s — 54° 20′.5.

A—B = Innes 10.

1899.99	169°.6	2″.69	...	...	I	
1900.18	172.1	2.35	...	—, 5	„	
1900.25	177.4	2.10	...	...	L	

[contd.

Digitized by Google

						MAG.
1900.28	176°.9	2".83	...	...	I	
1900.30	173.2	1.97	...	...	L	
1900.30	174.1	1.94	...	...	I	
1900.22	173.9	2.31	[3.4]	—, 5	Cape	6 n

A—C = *h* 4136

1899.99	62°.0	69".2	...	...	I	
1900.29	62.2	69.1	..	...	L	
1900.30	61.9	68.8	..	...	,,	
1900.19	62.0	69.0	[7.8]	...	Cape	3 n

Previously we find for A—C :—

1834.8	62°.0	80"±	8.7	...	*h*	2 n
1880.0	63.7	72.8	...	...	Cruls	2–1
1894.4	57.3	65.6	...	...	Bailey	1

There is a 12.0 mag. star, 240°±, 70"±.

Ref. Cat. 8h. No. 66. Rumker 9. 6.3
8h 42m 43s — 58° 21'.5.

1850.04	111°.2	4".48	0.5	...	T.M.	
1850.24	110.4	4.04	0.0	...	,,	
1850 ...	110.5	4.07	0.5	0, 0	,,	
1850.2	110.7	4.20	0.3	0, 0	T.M.	3 n

Ref. Cat. 8h. No. 69. Innes 70. 7.0
8h 43m 57s — 38° 34'.4.

1900.29	114°.4	1".18	2.5	...	I	
1903.18	111.9	1.58	2.0	...	,,	
1901.73	113.1	1.38	2.2	...	I	2 n

Ref. Cat. 8h. No. 80. *h* 4148. 8.3
8h 47m 56s — 53° 44'.3.

1900.26	111°.4	"...	[2.0]	...	L	1 n

Fixed.

Innes 317. Bris. [2267]. 8.5
8h 51m 33s — 43° 5'.0.

1900.29	303°.4	1".85	1.2	...	I	
1903.18	304.3	2.19	1.5	1, b	,,	
1901.73	303.8	2.02	1.4	1, b	I	2 n

Ref. Cat. 8h. No. 89. H Velorum. MAG. 4.8
8h 53m 18s — 52° 20'.3.

1900.23	343°.6	2".64	...	...	L	
1900.30	340.7	2.55	...	...	I	
1900.27	342.1	2.60	[2.6]	[3, b]	Cape	2 n

Fixed.

Ref. Cat. 8h. No. 90. Cordoba [20] 7.5
8h 53m 30s — 42° 52'.2.

1900.29	43°.1	3".28	2.5	...	I	
1900.32	46.8	2.76	...	...	,,	
1900.30	45.0	3.02	2.5	...	I	2 n

Ref. Cat. 8h. No. 93. Innes 287. 8.0
8h 55m 5s — 73° 39'.5.

1900.33	242°.4	1".93	...	...	I	
1900.34	240.8	cloud	2.0	...	,,	
1900.33	241.6	1.93	2.0	...	I	2–1 n

***h* 4164. Lac. 3666. 7.5**
8h 55m 50s — 65° 49'.1.

1900.32	145°.5	10".4	...	...	I	
1903.18	145.9	10.7	2.5	4, B	,,	
1901.75	145.7	10.6	2.5	4, B	I	2 n

Previously :—

1835.8	143°.6	14"±	...	...	*h*	3 n

The companion is C.Z. 8h 4488.

Ref. Cat. 8h. No. 91. Gilliss 104. Lac. 3648. 7.4
8h 56m 45s — 49° 10'.0.

1900.29	305°.0	8".93	2.7	3, B	I	
1900.32	305.2	...	...	...	,,	
1900.30	305.1	8.93	2.7	3, B	I	2–1 n

Wrongly identified in Ref. Cat. and called Innes 71.

Digitized by Google

Innes 318. b_2 **Carinæ.** MAG. 5.2
$8^h\ 56^m\ 57^s$ — 58° 42′.0.

1900.29	20°.0	28″.5	6.3	4, —	I	
1900.32	21.1	...	...	...	,,	
1900.33	18.9	29.4	...	...	,,	
1900.33	18.7	29.1	...	...	L	
1903.18	21.0	28.2	...	...	I	
1903.18	20.7	28.2	...	...	,,	
1900.32	19.7	29.0	6.3	4, —	Cape	4-3 n
1903.18	20.8	28.2	...	...	I	2 n

The change shown is probably partly due to the p.m. of the chief star, which is 0″.29 towards 327°.0.

Innes 357. Ö.A. 9263. 8.4
$8^h\ 57^m\ 33^s$ — 23° 21′.4.

1901.99	178°.8	0″.69	0.4	...	I	
1903.24	177.1	0.67	0.1	...	,,	
1902.12	178.0	0.68	0.3	...	I	2 n

Ref. Cat. 8^h. No. 96. *h* 4165. MAG. 5.4
$8^h\ 58^m\ 38^s$ — 51° 47′.7.

1900.30	99°.2	1″.19	...	...	I	
1903.24	103.6	1.46	2.0	2, —	,,	
1901.77	101.4	1.32	2.0	2, —	I	2 n

Slow increase in angle = 1° in four years.

Ref. Cat. 8^h. No. 97. *h* 4167. 8.9
$8^h\ 58^m\ 49^s$ — 65° 57′.4.

1900.29	26°.1	4″.40	2.5	...	I	
1900.33	24.3	4.27	...	...	,,	
1900.31	25.2	4.34	2.5	...	I	2 n

Previously:—

1836.1	25°.1	2″.5±	3.5	...	*h*	2 n

Fixed.

Digitized by Google

Ref. Cat. 9h. No. 2. Howe 10. MAG. 7.7
9h 2m 7s — 31° 11′.6.

1900.18	307°.4	3″.12	...	...	L	
1900.29	308.4	3.02	...	...	,,	
1900.23	307.9	3.07	[0·5]	...	L	2 n

Ref. Cat. 9h. No. 3. h 4178. 6.5
9h 2m 8s — 57° 27′.2.

1900.29	166°.5	3″.50	3.6	...	I	
1900.33	164.7	3.35	...	...	,,	
1900.31	165.6	3.42	3.6	...	I	2 n

Many faint stars about, the closest = 12m is f., a little N.

Ref. Cat. 9h. No. 4. Innes 196. 8.5
9h 2m 26s — 49° 44′.6.

1900.29	174°.3	0″.69	...	...	I	
1900.30	171.3	0.80	...	...	L	
1900.30	172.8	0.74	[0.5]	...	Cape	2 n

Ref. Cat. 9h. No. 8. Cordoba [21]. 8.3
9h 6m 17s — 43° 46′.1.

1900.33	44°.6	2″.46	...	...	I	
1901.22	47 3	2.84	0.8	...	,,	
1901.99	47·9	2.74	1.0	...	,,	
1901.18	46.6	2.67	0.9	...	I	3 n

Some faint stars closely f.

Ref. Cat. 9h. No. 9. Innes 288. 8.2
9h 6m 56s — 74° 21′.0.

1900.33	254°.6	0″.83	...	...	I	
1900.34	253.5	0.69	...	...	,,	
1900.34	254.0	0.76	[0.5]	...	I	2 n

Ref. Cat. 9h. No. 11. Innes 169. 7.2
9h 7m 15s — 42° 51′.4.

1900.33, 1900.34, 1901.09				Single	I	3 n

Should be rejected as single.

Innes 319. C.P.D. — 82°,305. MAG. 9.1
9h 10m 22s — 82° 37′.2.

1900.18	84°.1	4″.77	1.5	...	I	
1903.18	86.2	4.47	1.0	...	,,	
1901.68	85.2	4.62	1.2	...	I	2 n

Several faint stars within 30″.

Ref. Cat. 9h. No. 19. Innes 11. 6.2
9h 11m 37s — 45° 8′.3.

1902.27	269°.9	0″.94	1.5	2, 2	I	
1903.22	271.7	0.91	1.5	...	,,	
1902.74	270.8	0.93	1.5	2, 2	I	2 n

The p.m. is very small.

Innes 358. Lac. 3811. 5.4
9h 15m 53s — 68° 16′.0.

1900.34	131°.8	18″.1	6.6	...	I	
1903.18	133.0	18.1	7.1	3, —	,,	
1901.76	132.4	18.1	6.8	3, —	I	2 n

The p.m. is :—$\Delta\alpha = -0^s.016$, $\Delta\delta = 0''.0$.

Cape 33. C.P.D. — 69°,1034. 8.4
9h 16m 21s — 69° 58′.0.

1903.18	339°.0	4″.78	0.3	2, b	I	
1903.22	339.0	4.73	1.0	3, 0	,,	
1903.20	339.0	4.76	0.6	2½, 0	I	2 n

A 12th mag. star is 20″ ± pr.

This double star was found by Mr. R. T. Pett at the Transit Circle.

Ref. Cat. 9h. No. 24. Innes 198. 8.0
9h 16m 23s — 28° 47′.7.

1903.22	178°.9	0″.33	[1.0]	...	I	1 n

Ref. Cat. 9h. No. 26. Innes 170. 7.5
9h 17m 4s — 34° 55′.9.

1903.21	28°.5	1″.29	3.0	...	I	
1903.22	37.6	1.43	3.0	...	,,	
1903.24	31.2	1.22	3.0	...	,,	
1903.22	32.4	1.31	3.0	...	I	3 n

Digitized by Google

Ref. Cat. 9h. No. 27. Lac. 3846. MAG. 5.5
9h 17m 36s — 74° 28′.3.

A—B = Innes 12.

1900.34	266.7	0.3±	1.0	...	I	
1901.09	267.2	0.38	0.4	3, 3	,,	
1902.25	259.4	0.3±	...	...	,,	
1903.21	261.0	0.27	...	2, 2	,,	
1903.22	265.7	0.35	0.3	3, 3	,,	
1902.02	264.0	0.33	0.6	2¾, 2¾	I	5–3 n

The estimate, when discovered, was:—1894, 290°±.

A B—C = *h* 4206

1900.34	340.7	7.02	4.6	3, p	I	1 n

Ref. Cat. 9h. No. 31. I Velorum. 5.2
9h 23m 3s — 52° 56′.7.

B (10th mag.)—C (11th mag.)

1900.34	35.4	3.09	1.0	...	I	
1903.21	32.9	3.14	1.0	...	,,	
1901.77	34.1	3.11	1.0	...	I	2 n

There is a 4th star, 12th mag., at 30°±, 9″± from B.

Ref. Cat. 9h. No. 32. Innes 199. 7.8
9h 23m 25s — 69° 58′.6.

1900.34	138.1	2.59	...	...	I	
1903.18	136.1	2.69	2.5	o, b	,,	
1901.76	137.1	2.64	2.5	o, b	I	2 n

Ref. Cat. 9h. No. 40. ψ Argûs. 3.8
9h 26m 46s — 40° 1′.7

						W
1900.18	299.1	Very poor		...	I	1
1900.29	291.9	Poor	...	...	,,	2
1900.33	289.9	0.76	...	...	,,	3
1900.34	294.1	Poor	...	...	,,	2
1900.30	292.8	0.76 (Weighted mean)			I	4–1 n
1901.08	306.0	0.70	0.5	...	I	
1901.26	308.5	...	...	...	,,	
1901.17	307.2	0.70	0.5	...	I	2–1 n

[contd.

						MAG.
1902.12	333.9	Poor	...	...	I	
1902.15	338.9	...	...	...	,,	
1902.25	342.3	Very difficult			,,	
1902.31	339.9	0.48	...	...	,,	
1902.21	338.8	0.48	...	...	I	4–1 n
1903.16	25.7	0.33	...	...	I	
1903.16	24.3	0.30	...	...	,,	
1903.21	19.2	0.26	...	3, 3	,,	
1903.21	25.6	0.29	...	...	,,	
1903.22	26.8	...	...	...	,,	
1903.24	23.3	0.28	...	3, 3	,,	
1903.20	24.1	0.29	...	3, 3	I	6–5 n

All the observations found are:—

1883.3	45±	0.8±	...	Copeland	1 n
1896.4	240?	...	...	I	1
1897.1	260±	0.7±	...	,,	1
1897.1	255.9	0.49	...	See	4
1897.1	256.9	0.81	...	Cogshall	1
1899.29	275.0	0.72	...	Aitken	1
1900.30	292.8	0.76	...	I	4–1
1901.17	307.2	0.70	...	,,	2–1
1902.2	[256.3]	...	...	Doberck	1
1902.21	338.8	0.48	...	I	4–1
1903.20	24.1	0.29	...	,,	6–5

These observations (excluding Doberck's altogether, and adding 180° to Copeland's angle), suggest a period of about 12 years.

The motion in 1903 is at the rate of 50° a year. The star is so close in the 1st quadrant that the alteration of Dr. Copeland's quadrant seems very probable.

Ref. Cat. 9h. No. 41. Innes 31. 9.2
9h 27m 53s — 56° 32′.5.

1900.34	155.4	3.20	...	...	I	
1901.26	156.9	3.08	0.4	...	,,	
1901.99	157.0	3.25	0.2	...	,,	
1901.20	156.4	3.18	0.3	...	I	3 n

Several faint stars near, viz.: an 11m S. pr., an 11m N. pr., and a 12.5m S. f.

Digitized by Google

Ref. Cat. 9h. No. 45. Innes 289. MAG. 8.2
9h 29m 17s — 73° 12′.5.

1901.08	255°.6	0″.84	0.4	...	I	
1901.26	259.4	0.74	0.3	...	„	
1901.17	257.5	0.79	0.4	...	I	2 n

A 14m star is at 6°±, 38″±.

Ref. Cat. 9h. No. 46. Innes 200. 7.7
9h 29m 22s — 60° 47′.5.

1901.08	361°.4	1″.25	2.0	3, b	I	
1901.26	354.5	1.18	2.5	...	„	
1901.17	358.0	1.21	2.2	3, b	I	2 n

A 13m star is 30″ N. pr.

Cape 40. C.Z. 9h 2351. 8.8
9h 30m 2s — 43° 52′.0.

1902.25	350°.4	4″.30	0.1	...	I	
1902.27	169.0	4.63	0.2	...	„	
1902.26	169.7	4.46	0.1	...	I	2 n

Found by Mr. J. Power at the Transit Circle.
A 13½m star is at 230°±, 9″±, or about 5″ from B.

Ref. Cat. 9h. No. 47. *h* 4220. 5.3
9h 30m 9s — 48° 33′.7.

1900.18	206°.8	2″.54	...	...	L	
1900.23	206.9	2.40	...	...	„	
1900.25	208.1	2.38	...	...	„	
1900.27	208.2	2.41	...	...	„	
1900.27	207.1	2.11	...	...	„	
1900.24	207.4	2.37	[0.6]	...	L	5 n

The angle is increasing about 1° every 10 years. Distance decreasing?

Ref. Cat. 9h. No. 49. Innes 201. 8.2
9h 30m 52s — 73° 18′.3.

1901.08	151°.6	1″.96	2.5	3, b	I	
1901.26	152.6	2.21	2.0	2,–	„	
1901.17	152.1	2.08	2.2	2½, b	I	2 n

There is an uncertain p.m. of 0″.14 towards 315°.0.

Ref. Cat. 9h. No. 52. λ 115. MAG. 5.5
9h 33m 52s — 53° 13′.0.

1902.12	165°.5	0″.59	...	4, 4	I	
1902.25	171.4	0.78	...	3, 3	„	
1902.27	168.3	0.68	...	2, 2	„	
1902.21	168.4	0.68	[0.1]	3, 3	I	3 n

Distance erroneously given as 0″.78 in *M.N.R.A.S.*

Innes 360. G.P.Z. 6364. 8.9
9h 33m 56s — 66° 49′.7.

1900.29	184°.8	4″.90	1.0	...	I	
1902.12	184.4	5.16	...	2, b	„	
1901.20	184.6	5.03	1.0	2, b	I	2 n

Ref. Cat. 9h. No. 53. Innes 202. 6.9
9h 34m 38s —39° 9′.6.

1901.97	176°.2	1″.59	2.0	3, b	I	
1902.31	175.3	1.09	2.0	2, b	„	
1902.14	175.8	1.34	2.0	2½, b	I	2 n

Ref. Cat. 9h. No. 56. Innes 203. 8.2
9h 35m 49s — 62° 6′.2

1901.09	Single		...	...	I	
1902.25	314°.3	0″.3±	...	...	„	
1903.22	313.8	0.45	0.3	...	„	
1902.73	314.0	0.45	0.3	...	I	2–1 n

The estimate with the 6·9-in. in 1897 was 140°±, 0″.5±. If 180° is added to this, it becomes 320°±, so that there is no good evidence of change.

Innes 320. G.P.Z. 6390. 8.6
9h 36m 20s — 66° 14′.7.

1901.08	49°.0	1″.04	1.2	0, 0	I	
1902.12	47.9	1.09	...	...	„	
1901.60	48.4	1.06	1.2	0, 0	I	2 n

Several faint stars near.

Digitized by Google

Innes 321. Gilliss 1129. MAG. 9.3
9h 36m 52s — 58° 49′.0.

1901.09	209°.8	2″.04	0.0	o, o	I	1 n

Innes 395. C.Z. 9h 3089. 8.5
9h 40m 43s — 37° 6′.1.

1901.97	340°.3	0″.72	0.1	...	I	1 n

Ref. Cat. 9h. No. 60. Hargrave 28. 7.8
9h 42m 12s — 59° 0′.8.

1901.09	285°.1	1″.98	2.5	4, b	I	
1903.22	284.6	2.02	2.5	3, B	„	
1902.16	284.8	2.00	2.5	3½, b	I	2 n

The only measures published.

There is a very minute double star 20″ pr., a little S.

Ref. Cat. 9h. No. 61. Innes 172. 7.7
9h 43m 18s — 37° 15′.6.

1901.97	311°.9	1″.04	[2.1]	...	I	1 n

A 15m star 200°±, 10″±.
„ 13m „ 270°±, 30″±.

Ref. Cat. 9h. No. 63. Innes 204. 7.2
9h 43m 56s — 69° 39′.3.

A—B

1901.08	124°.3	1″.54	2.5	2,–	I	
1903.16	127.7	1.87	2.5	...	„	
1902.12	126.0	1.70	2.5	2,–	I	2 n

A—C. New.

1901.08	319°.5	3″.67	4.0	...	I	1 n

The p.m. of the chief star is very small.

Ref. Cat. 9h. No. 65. *h* 4249. 7.5
9h 44m 29s — 34° 33′.3.

1850.10	127°.4	3″.94	0.5	b, b	T.M.	1 n

Ref. Cat. 9h. No. 66. υ Argûs. MAG. 3.1
9h 44m 36s — 64° 36′.5.

1850.10	124°.9	5″.58	5.5	...	T.M.	
1851.15	126.2	4.76	...	...	„	
1855.04	126.1	4.94	...	o, b	„	
1852.10	125.7	5.09	5.5	o, b	T.M.	3 n

Cordoba [78]. C.Z. 9h 3385. 9.0
9h 44m 49s — 44° 26′.1.

1901.09	109°.4	1″.90	0.2	o, o	I	1 n

Ref. Cat. 9h. No. 73. Rumker 12. 6.8
9h 53m 1s — 68° 42′.9.

1902.36	213°.0	9″.46	1.5	...	I	1 n

Fixed. The companion is G.P.Z. 6602.

Innes 396. φ Argûs. 3.7
9h 53m 21s — 54° 5′.5.

1901.28	7°.4	37″.2	8.3	...	I	
1902.40	9.0	37.3	...	...	„	
1901.84	8.2	37.2	8.3	...	I	2 n

The p.m. of the chief star is 0″.033 towards 270°.0.

Innes 322. C.P.D. — 61°,1383. 9.0
9h 55m 23s — 62° 4′.9.

1901.28	68°.0	2″.01	0.5	...	I	
1902.40	66.2	1.87	1.0	...	„	
1901.84	67.1	1.94	0.7	...	I	2 n

Some very faint stars within 20″.

Ref. Cat. 9h. No. 74. Innes 290. 9.2
9h 58m 45s — 59° 35′.7.

1902.44	284°.3	1″.14	1.0	...	I	1 n

In a cluster. The identification of this and the 2 following pairs has been secured by means of a map.

Digitized by Google

Innes 415. C.P.D. — 59°,1699. MAG. 9.6
9h 58m 53s — 59° 28′.4.

1902.40	271°.9	5″.17	0.0	...	I	
1902.44	93.1	5.35	0.3	...	,,	
1902.42	92.5	5.26	0.1	...	I	2 n

Innes 416. C.P.D. — 59°,1718. 9.2
9h 59m 10s — 59° 31′.4.

1901.09	272°.0	2″.69	1.2	...	I	
1902.40	274.7	2.10	1.5	...	,,	
1902.44	273.8	2.35	...	...	,,	
1901.94	273.5	2.38	1.3	...	I	3 n

There are many such pairs as the last three in this cluster.

Ref. Cat. 9h. No. 75. Innes 291. MAG. 7.2
9h 59m 20s — 70° 14′.8.

1900.22	323°.7	1″.17	3.0	...	I	
1902.36	321.5	0.99	2.5	2, b	,,	
1902.40	321.2	1.14	...	...	,,	
1901.66	322.1	1.10	2.7	2, b	I	3 n

Ref. Cat. 9h. No. 76. Innes 292. 7.3
9h 59m 46s — 27° 53′.6.

1902.40	210°.4	0″.66	0.3	3, 3	I	1 n

Digitized by Google

Ref. Cat. 10h. No. 2. Innes 293. MAG. 6.9
10h 0m 40s — 27° 42′.7.

1902.40	327°.5	0″.54	[1.0]	...	I	1 n

Hardly seen elongated.

Ref. Cat. 10h. No. 9. Innes 173. 5.2
10h 2m 14s — 46° 52′.9.

1901.08	61°.2	0″.3±	2.0	...	I	
1902.31	53.7	0.53	2.8	3,–	„	
1901.70	57.4	0.53	2.4	3,–	I	2–1 n

The p.m. is 0″.11 towards 116°.0.

Howe 12. C.Z. 10h 383. 7.7
10h 6m 17s — 36° 6′.1.

1876.3	125°±	3″±	[0.5]	[0, 0]	Howe	1 n

Mag. from the C.P.D.
This neat pair precedes Howe 13.

Ref. Cat. 10h. No. 14. Lac. 4203. 6.1
10h 7m 2s — 68° 11′.5.

A—B = Innes 13

1900.22	145°.0	0″.99	0.2	...	I	
1900.27	150.2	1.09	...	...	L	
1900.29	148.4	0.81	...	...	I	
1900.29	148.5	1.21	...	...	L	
1902.45	145.1	0.75	−0.1	3, 3	I	
1902.50	147.6	0.75	−0.1	3, 3	„	
1901.00	327.5	0.93	0.0	3, 3	Cape	6 n

A B—C = *h* 4295

1900.22	39°.9	26″.0	4.1	...	I	
1900.27	40.3	haze	...	...	L	
1902.50	40.3	25.8	...	...	I	
1901.00	40.2	25.9	4.1	...	Cape	3–2 n

Previously:—

1835.2	36°.4	20″±	7.0	...	*h*	1 n

Innes 361. C.Z. 10h 591. MAG. 8.5
10h 8m 58s — 46° 59′.1.

1901.28	135°.1	4″.38	1.8	2, b	I	
1902.16	136.1	4.67	...	...	„	
1902.45	134.8	4.88	2.0	3,–	„	
1901.96	135.3	4.64	1.9	2½, b	I	3 n

The N. pr. of 2 stars.
A little triangle of faint stars pr.

Ref. Cat. 10h. No. 17. Howe 13. 8.3
10h 10m 17s — 36° 9′.2.

1900.23	308°.0	...	...	...	L	
1900.29	305.6	3.16	...	...	„	
1900.33	307.9	3.00	...	...	„	
1900.29	307.2	3.08	[0.5]	...	L	3–2 n

Ref. Cat. 10h. No. 18. *h* 4310. 7.3
10h 10m 21s — 83° 35′.8.

1900.30	272°.4	3″.40	...	...	L	
1900.33	272.4	3.70	...	...	„	
1900.32	272.4	3.55	[0.5]	...	L	2 n

The p.m. is very small.

Ref. Cat. 10h. No. 21. Russell 139. 7.2
10h 12m 20s — 66° 47′.3.

1902.45	333°.5	2″.12	1.8	4, b	I	1 n

Cape 41. C.Z. 10h 889. 8.7
10h 12m 58s — 41° 0′.8.

1902.31	338°.9	2″.75	0.8	y, b	I	
1902.45	338.8	2.63	1.0	...	„	
1902.38	338.8	2.69	0.9	y, b	I	2 n

Ref. Cat. 10h. No. 22. Innes 206. 8.5
10h 14m 23s — 22° 39′.7.

1902.12	327°.4	1″.00	...	...	I	
1902.40	328.5	1.01	...	...	„	
1902.26	328.0	1.01	[0.5]	...	I	2 n

Digitized by Google

Ref. Cat. 10h. No. 23. Innes 207. MAG. 8.5
10h 14m 27s — 32° 42′.8.

1901.28	323°.3	2″.63	0.2	1, 1	I	
1902.40	322.9	2.16	...	...	„	
1902.45	321.8	2.38	0.3	...	„	
1902.04	322.7	2.39	0.3	1, 1	I	3 n

Ref. Cat. 10h. No. 30. Russell 141. 7.7
10h 17m 11s — 66° 39′.9.

1902.45	45°.4	1″.91	1.5	y, b	I	
1902.50	46.3	1.96	1.0	...	„	
1902.47	45.8	1.93	1.2	y, b	I	2 n

Previously :—

1880.3	37°.1	2″.93	1.0	...	Russell	1 n

Ref. Cat. 10h. No. 35. [23]. Cordoba 7.8
10h 19m 8s — 65° 11′.2.

1900.22	156°.9	4″.07	2.5	...	I	
1900.29	158.7	3.73	...	...	L	
1900.30	156.3	3.95	...	...	„	
1900.27	157.3	3.92	2.5	...	Cape	3 n

Ref. Cat. 10h. No. 36. Innes 208. 7.5
10h 19m 34s — 43° 44′.2.

A—B.

1901.22	30°.6	0″.82	0.8	0, 0	I	
1902.45	26.7	0.83	1.0	...	„	
1902.50	26.3	0.73	1.2	...	„	
1902.06	27.9	0.79	1.0	0, 0	I	3 n

A B—C. New.

1902.50	22°.0	24″.2	6.5	...	I	1 n

C is very difficult ; three single distances taken.

Ref. Cat. 10h. No. 37. Innes 209. 7.5
10h 20m 2s — 38° 4′.3.

1900.44	137°.8	1″.10	...	...	I	
1902.45	136.5	0.80	...	2, 2	„	
1902.50	137.4	0.74	0.1	...	„	
1901.79	137.2	0.88	0.1	2, 2	I	3 n

There is a 15th mag. star at 126° ±, 20″ ±.

Ref. Cat. 10h. No. 38. Innes 210. MAG. 7.7
10h 23m 24s — 38° 11′.5.

1900.44	235°.4	...	2.5	...	I	
1902.45	237.5	0.75	2.5	...	„	
1902.50	234.8	1.15	...	...	„	
1901.79	235.9	0.95	2.5	...	I	3–2 n

Colours slightly contrasted.

Ref. Cat. 10h. No. 39. Innes 73. 7.2
10h 24m 52s — 48° 28′.6.

1902.12	221°.4	5″.07	...	2, b	I	
1902.16	221.5	5.55	...	...	„	
1902.14	221.4	5.31	[2.8]	2, b	I	2 n

Another *comes*, 10.5 mag. 20″ ±.

Ref. Cat. 10h. No. 44. *h* 4329. 5.1
10h 27m 28s — 53° 12′.4.

1900.33	83°.1	31″.0	...	...	L	
1900.41	82.9	31.2	...	...	„	
1900.37	83.0	31.1	[2.8]	...	L	2 n

Ref. Cat. 10h. No. 45. Innes 174. 8.4
10h 27m 34s — 61° 3′.8.

1901.09	49°.6	0″.93	2.0	...	I	
1901.28	51.0	1.08	2.0	...	„	
1902.45	45.8	0.91	...	...	„	
1902.47	46.2	1.07	1.5	...	„	
1903.16	46.0	1.06	0.5	...	„	
1902.09	47.7	1.01	1.5	...	I	5 n

Close to a small triple star, see following :—

Ref. Cat. 10h. No. 47. Innes 33. 9.3
10h 27m 41s — 61° 2′.8.

A—B. New.

1901.09	41°.6	0″.65	0.2	...	I	1 n

A B—C.

1901.09	116°.7	5″.09	0.1	0, 0	I	1 n

Digitized by Google

Ref. Cat. 10h. No. 51. Innes 32. MAG. 9.0
10h 28m 15s — 61° 16′.8.

1901.09	345°.1	5″.30	2.0	...	I	
1902.45	343.9	4.98	2.0	...	,,	
1901.77	344.5	5.14	2.0	...	I	2 n

Ref. Cat. 10h. No. 54. [24]. Cordoba 7.4
10h 31m 15s — 57° 9′.6.

1902.12	237°.5	5″.06	2.5	5, B	I	
1902.45	239.3	5.28	2.0	4, B	,,	
1902.28	238.4	5.17	2.3	4½, B	I	2 n

There is a 13½ mag. star at 235° ±, 15′ ±.

Ref. Cat. 10h. No. 57. Innes 74. 8.5
10h 31m 33s — 63° 36′.7.

1902.25	232°.0	2″.96	1.5	—, 6	I	
1902.31	231.4	2.96	1.3	...	,,	
1903.28	231.7	2.96	1.4	—, 6	I	2 n

Ref. Cat. 10h. No. 58. Innes 175. 7.7
10h 32m 5s — 47° 19′.9.

1902.25	155°.0	1″.86	3.5	...	I	
1902.31	158.0	2.00	3.0	...	,,	
1902.28	156.5	1.93	3.2	...	I	2 n

Ref. Cat. 10h. No. 60. C.Z. 10h 2403 9.0
10h 34m 10s — 64° 51′.2.

A − B = Innes 417.

1902.25	13°.8	0″.64	0.1	...	I	
1902.31	14.7	0.59	0.0	...	,,	
1902.28	14.3	0.61	0.1	...	I	2 n

A B − C = Cordoba.

1902.25	5°.9	5″.20	0.3	...	I	
1902.31	6.3	4.93	0.0	...	,,	
1902.28	6.1	5.07	0.2	...	I	2 n

Ref. Cat. 10h. No. 62. t_2 Carinæ. MAG. 4.7
10h 34m 57s — 58° 39′.7.

1900.41	20°.1	14″.6	[2.8]	[3, B]	L	1 n

Ref. Cat. 10h. No. 66. Cordoba [25] 8.5
10h 38m 10s — 44° 44′.2.

1900.41	224°.3	2″.97	[0.5]	...	L	1 n

The p.m. is inconsiderable.

Innes 397. C.Z. 10h 2838. 8.7
10h 40m 10s — 36° 20′.8.

1902.25	352°.1	1″.24	1.0	...	I	1 n

Lac. 4437, mag. 6.8, is 3½′ S.

Ref. Cat. 10h. No. 73. Σ 1470. 8.5
10h 41m 10s — 5° 14′.1.

1900.30	12°.2	1″.55	...	...	L	
1900.30	12.8	1.46	...	...	,,	
1900.30	12.5	1.50	[0.3]	...	L	2 n

Innes 398. C.P.D. — 56°, 3761. 8.8
10h 41m 46s — 56° 47′.6.

1902.25	235°.1	4″.68	...	...	I	
1902.44	235.2	4.37	...	...	,,	
1902.34	235.2	4.52	[0.3]	...	I	2 n

Ref. Cat. 10h. No. 74. μ Argus. 2.8
10h 42m 28s — 48° 53′.5.

1900.36	61°.7	2″.72	...	...	I	
1900.41	61.5	2.20	...	...	L	
1900.38	61.6	2.46	[4.5]	...	Cape	2 n

Ref. Cat. 10h. No. 76. 40 Sextantis. 6.7
10h 44m 13s — 3° 29′.7.

1900.30	2°.7	2″.25	..	...	L	
1900.30	3.3	2.28	...	...	,,	
1900.30	3.0	2.26	[1.0]	...	L	2 n

Digitized by Google

Ref. Cat. 10h. No. 77. δ_1 Chameleontis. MAG. 5.5
10h 44m 19s — 79° 56′.4

1900.36	63°.9	0″.40	0.2	...	I	
1902.25	58.9	0.89	...	...	,,	
1902.31	61.1	0.50	0.3	4, 4	,,	
1901.64	61.3	0.60	0.2	4, 4	I	3 n

Ref. Cat. 10h. No. 78. h 4373. 8.9
10h 44m 22s — 40° 54′.8.

1900.36	344°.0	10″.8	...	3, —	I	
1902.47	344.5	11.0	0.5	...	,,	
1901.41	344.2	10.9	0.5	3, —	I	2 n

Innes 418. Bris. 3273. 8.5
10h 49m 11s — 62° 33′.3.

1902.31	202°.5	2″.18	0.2	3, 3	I	
1902.44	204.0	2.49	...	4, 4	,,	
1902.37	203.3	2.33	0.2	$3\frac{1}{2}$, $3\frac{1}{2}$	I	2 n

The meridian positions are discordant, p.m. uncertain.

There is a faint wide pair N.f.

Ref. Cat. 10h. No. 84. Innes 306. MAG. 8.2
10h 51m 27s — 47° 2′.5.

1900.36	164°.3	1″.13	2.0	...	I	1 n

The p.m. is very small.

The mag. is taken from the Cape Meridian Observations.

Ref. Cat. 10h. No. 89. Σ 1500. 7.3
10h 54m 56s — 2° 56′.2.

1900.30	313°.9	1″.70	...	...	L	
1900.30	314.6	1.63	...	...	,,	
1900.30	314.2	1.67	[0.6]	..	L	2 n

Ref. Cat. 10h. No. 90. Russell 164. 6.3
10h 55m 13s — 60° 47′.1.

1902.44	81°.7	3″.78	3.5	3, —	I	1 n

Ref. Cat. 10h. No. 93. Innes 212. 6.7
10h 58m 5s — 81° 1′.3.

1900.36	145°.9	0″.72	0.1	0, 0	I	
1901.54	151.2	0.61	0.0	4, 4	,,	
1902.31	151.3	0.73	...	...	,,	
1901.40	149.5	0.69	0.0	2, 2	I	3 n

The p.m. is very small.

Digitized by Google

Ref. Cat. 11h No. 1. Innes 176. MAG. 9.6
11h 1m 6s — 46° 52′.6.

1901.53	No companion seen.				I	1 n

Innes 419. C.G.A. 166. [x Carinæ]. 8.5
11h 3m 1s — 58° 9′.9.

1902.33	221°.4	2″.55	2.0	...	I	
1902.36	221.2	3.16	...	...	„	
1902.34	221.3	2.85	2.0	...	I	2 n

In the magnificent cluster surrounding *x* Carinæ.
Mag. in C.G.A. = 9.75
„ „ C.P.D. = 9.2
„ „ Cor. Photo. = 9.5
Is No. 483 of Gould's Cordoba Photos, but it is not there identified as a C.G.A. star.
In spite of the good agreement of the above mags., this star when measured was nearer 8th than 9th mag.

Ref. Cat. 11h. No. 3. Innes 295. 8.6
11h 4m 22s — 61° 0′.2.

1901.53	191°.6	1″.72	2.5	2, —	I	
1901.54	192.7	1.47	2.5	...	„	
1901.54	192.2	1.59	2.5	2, —	I	2 n

Ref. Cat. 11h. No. 4. Innes 213. 8.0
11h 5m 47s — 32° 1′.3.

1901.53	127°.1	1″.02	2.5	...	I	
1902.36	125.9	0.82	2.5	...	„	
1901.94	126.5	0.92	2.5	...	I	2 n

Ref. Cat. 11h. No. 7. Innes 231. 7.3
11h 8m 22s — 70° 40′.4.

1901.53	2°.4	2″.63	3.0	2, b	I	
1901.54	1.9	2.52	3.5	...	„	
1901.54	2.2	2.57	3.2	2, b	I	2 n

Ref. Cat. 11h. No. 8. Russell 165. 7.1
11h 8m 27s 46° 30′.7.

1901.54, Δm = 0.3. Colours = 4, 1. This is the S.f., and brighter of two stars, the N.pr. being 7.7 mag. Arequipa identification as Lac. 4647 is erroneous.

Ref. Cat. 11. No. 11. *h* 4421. MAG. 6.9
11h 11m 16s — 47° 22′.5.

1902.36	66°.7	23″.1	3.5	...	I	
1902.44	68.1	22.8	3.0	...	„	
1902.40	67.4	23.0	3.3	...	I	2 n

There is a 14m star, 10°±, 28″±.

Ref. Cat. 11h. No. 12. *h* 4423. 6.5
11h 11m 49s — 45° 20′.2.

1900.29	276°.0	2″.13	...	...	L	
1900.30	277.9	2.17	...	...	„	
1900.30	277.0	2.15	[0.2]	...	L	2 n

Innes 420. C.P.D. — 61°, 2224. 9.6
11h 17m 0s — 61° 29′.4.

1902.48	34°.5	1″.11	0.5	...	I	1 n

The f. of two stars.
Near RS Centauri.

Ref. Cat. 11h. No. 20. Cape 21. 9.1
11h 19m 31s — 47° 25′.4.

1900.29	286°.8	3″.41	...	...	L	
1900.41	285.3	3.35	...	...	„	
1900.35	286.0	3.38	[0.5]	...	L	2 n

Ref. Cat. 11. No. 24. Innes 76. 9.5
11h 22m 23s — 30° 11′.3.

1902.33	50°.5	7″.06	0.5	...	I	1 n

Too wide to be of any interest as a double star.

Ref. Cat. 11h. No. 29. o_1 Centauri. 4.9
11h 27m 8s — 58° 53′.4.

1900.48	125°.8	15″±	[5.6]	...	I	1 n

Common proper motion of 0″.038 towards 218°.0.

Digitized by Google

Innes 421. Lac. 4834. MAG. 7.7
11h 32m 51s — 60° 55′.9.

1902.48	118°.9	1″.15	2.5	...	I	
1902.55	116.6	1.50	3.0	...	,,	
1902.51	117.7	1.32	2.7	...	I	2 n

No evidence for p.m.
Many faint stars within 40″.

Innes 422. Lac. 4829. 7.2
11h 33m 41s — 62° 49′.1.

A – B

1902.48	89°.1	0″.66	0.0	3, 3	I	
1902.55	101.7	0.52	...	...	,,	
1902.58	91.5	0.40	...	...	,,	
1902.54	94.1	0.53	0.0	3, 3	I	3 n

A B – C

1902.48	361°.6	1″.61	3.0	5, B	I	
1902.55	358.4	1.60	...	...	,,	
1902.58	358.9	1.78	...	...	,,	
1902.54	359.6	1.66	3.0	5, B	I	3 n

A B – D

1902.55	323°.7	9″.39	5.0	...	I	
1902.58	322.7	9.52	...	...	,,	
1902.56	323.2	9.45	5.0	...	I	2 n

The p.m. of A B is very small.

Ref. Cat. 11h. No. 38. *h* 4460. 7.5
11h 34m 25s — 57° 11′.1.

1902.36	175°.8	8″.53	1.3	...	I	
1902.47	176.9	8.64	...	...	,,	
1902.41	176.3	8.58	1.3	...	I	2 n

Fixed.

Ref. Cat. 11h. No. 40. Innes 307. 8.5
11h 34m 44s — 51° 7′.9.

1901.53	35°.8	0″.86	0.2	3, 2	I	1 n

Ref. Cat. 11h. No. 42. Innes 34. MAG. 5.1
11h 34m 51s — 64° 50′.6.

A – B

1900.32	233°.0	39″.2	...	...	L	
1901.53	234.1	38.3	6.9	4, —	I	
1900.92	233.6	38.7	6.9	4, —	Cape	2 n

A – C

1900.32	31°.4	41″.1	...	...	L	
1901.53	31.7	42.6	7.4	4, —	I	
1900.92	31.6	41.8	7.4	4, —	Cape	2 n

The p.m. of A is very small.

Ref. Cat. 11h. No. 43. Innes 232. 7.2
11h 34m 59s — 32° 53′.7.

1900.29	163°.2	2″.27	...	...	L	
1900 30	162.3	2.25	...	...	,,	
1900.30	162.8	2.26	[2.0]	...	L	2 n

Ref. Cat. 11h. No. 45. Innes 308. 8.5
11h 36m 26s — 49° 38′.9.

1901.53	128°.1	1″.34	0.0	3, b	I	1 n

Two stars of equal magnitude, but with contrasted colours.
There are : –
13 mag. star, 45°±, 10″±.
12 ,, ,, 30°±, 25″±.

Ref. Cat. 11h. No. 46. *h* 4465. 5.1
11h 36m 44s — 31° 56′.6.

1900.48	343°.8	25″.8	[5.2]	[6, —]	I	1 n

This star has been measured as λ 133.

Ref. Cat. 11h. No. 57. Howe 17. 6.6
11h 49m 25s — 37° 11′.7.

1902.16	277°.7	2″.05	[2.5]	...	I	1 n

Ref. Cat. 11h. No. 59. Innes 79. 7.8
11h 49m 46s — 41° 50′.2.

1900.48	103°.3	0″.91	0.2	...	I	1 n

Digitized by Google

Ref. Cat. 11h. No. 61. Innes 80. 11h 50m 20s —41° 20′.8.					MAG. 7.5	
1900.48	106°.9	1″.45	0.0	...	I	1 n

Ref. Cat. 11h. No. 69. Innes 215. 11h 56m 41s —34° 5′.6.					MAG. 7.0	
1901.53	236°.7	1″.14	0.8	...	I	1 n

Ref. Cat. 11h. No. 73. 115. Washburn 11h 58m 39s —57° 11′.1.					MAG. 8.3	
1902.35	244°.9	1″.86	1.5	...	I	
1902.53	244.8	1.83	...	...	,,	
1902.44	244.8	1.84	1.5	...	I	2 n

The only measures.

Digitized by Google

Ref. Cat. 12h. No. 2. h 4498. MAG. 6.0
12h 1m 12s — 65° 9′.1.

1902.35	61°.7	8″.83	...	3, B	I	
1902.53	61.5	8.67	...	...	,,	
1902.44	61.6	8.75	[2.0]	3, B	I	2 n

Ref. Cat. 12h. No. 3. η Crucis. 4.3
12h 1m 40s — 64° 3′.3.

1900.36	*h* star only seen, (				I	1 n

Prof. W. H. Pickering added a star as follows :—
1891.6 210°± 30″± 8.0 ...
The proper motion of η Crucis is 0″.06 towards 180°.0.

Ref. Cat. 12h. No. 8. Innes 216. 7.5
12h 4m 34s — 51° 13′.6.

1900.36	39°.8	0″.98	3.0	...	I	
1900.38	38.5	1.08	...	...	,,	
1900.37	39.2	1.03	3.0	...	I	2 n

There are :—
12.2 mag. star N.f. 14″±.
11.0 ,, ,, N.pr. 27″±.

Ref. Cat. 12h. No. 9. Jacob [8]. 6.3
12h 4m 53s — 34° 8′.9.
A – BC.

1902.53	19°.8	3″.15	2.0	...	I	
1903.23	21.2	3.54	..	2, b	,,	
1902.88	20.5	3.34	2.0	2, b	I	2 n

B – C.

For this star we find :—
1891.6 0°± 0″.3± 0.0 ... W. H. Pickering 1 n
This close double star appeared single on the two above occasions.
There is a 9th mag. star 45″± N.f.; it is perhaps double as seen with the 18-inch telescope.

Ref. Cat. 12h. No. 11. λ 145. 6.3
12h 5m 22s — 37° 18′.8.

1901.54	Round, <0″.25 if double				I	1 n

Innes 423. U.A. 98 Centauri. MAG. 6.6
12h 5m 51s — 44° 52′.0.

1902.35	171°.1	2″.27	3.0	5, B	I	
1902.36	170.6	2.40	2.5	3, B	,,	
1902.36	170.8	2.34	2.8	4, B	I	2 n

Ref. Cat. 12h. No. 15. h 4505. 7.9
12h 6m 32s — 30° 2′.8.

1900.36	269°.4	9″.82	...	...	I	
1900.48	269.1	10.52	...	...	L	
1900.41	269.2	10.2	[2.0]	...	Cape	2 n

Ref. Cat. 12h. No. 17. h 4507. 8.1
12h 7m 40s — 44° 20′.2.

1902.35	223°.2	16″.5	...	4, B	I	
1902.55	223.7	16.0	...	5, B	,,	
1902.45	223.4	16.3	[0.8]	4½, B	I	2 n

Ref. Cat. 12h. No. 19. D Centauri. 5.3
12h 8m 49s —45° 10′.1.

1900.33	245°.0	2″.90	...	...	L	
1900.48	243.6	3.29	...	...	,,	
1900.40	244.3	3.10	[1.6]	[4, b]	L	2 n

Ref. Cat. 12h. No. 21. Innes 81. 9.0
12h 9m 46s — 29° 12′.7.

1901.54	344°.0	2″.60	1.5	2, b	I	
1902.36	344.0	2.71	...	...	,,	
1901.95	344.0	2.66	1.5	2, b	I	2 n

Ref. Cat. 12h. No. 27. F Centauri. 5.0
12h 13m 40s — 54° 35′.2.

1900.38	87°.2	35″.7	7.0	...	I	1 n

The only companion seen, and it is too faint for easy measurement.
At Arequipa :—
1891.6 265°± 30″± 7.0 ... W. H. Pickering 1 n

Digitized by Google

Ref. Cat. 12h. No. 31. ξ_2 Muscæ. MAG. 5.3
12h 16m 34s — 66° 58′.0.

1900.38	130°.9	32″.6	5.2	—, 7	I	
1900.49	132.3	32.3	...	...	„	
1900.43	131.6	32.5	5.2	—, 7	I	2 n

The p.m. of the chief star is very small.

Ref. Cat. 12h. No. 33. Howe 21. 7.6
12h 17m 23s — 33° 0′.3.

1900.47	276°.2	3″.64	1.5	...	I	
1900.48	276.4	3.30	...	...	L	
1900.48	276.3	3.47	1.5	...	Cape	2 n

The only measures.

Ref. Cat. 12h. No. 41. α Crucis. 1.0
12h 21m 2s — 62° 32′.6.

1850.13	118°.8	5″.57	...	...	T.M.	
1850.16	119.4	...	...	...	„	
1850.14	119.1	5.57	[0.4]	...	T.M.	2–1 n

1900.07	117°.6	4″.93	...	...	L	
1901.65	118.4	4.61	...	Day	I	
1901.69	118.0	4.67	...	„	„	
1901.14	118.0	4.74	...	...	Cape	3 n

The observations of this very fine pair are sufficiently satisfied by the following formulæ:—

$$\theta = 118°.0 - 0°.02\ (t - 1900)$$
$$\Delta = 4''.75 - 0''.01\ (t - 1900)$$

Ref. Cat. 12h. No. 42. G Centauri. 5.1
12h 21m 7s — 50° 53′.8.

1902.55	284°.8	21″.5	8.4	3, —	I	1 n

The p.m. of the chief star is 0″.083 towards 232°.9.

Ref. Cat. 12h. No. 36. Innes 35. C.Z. 12h 1236. 8.5
12h 21m 23s — 76° 6′.7.

1901.54	316°.3	2″.26	0 3	...	I	
1902.31	315.3	2.37	...	...	„	
1901.92	315.8	2.31	0.3	...	I	2 n

Colours slightly contrasted; same star as Innes 323.

Ref. Cat. 12h. No. 45. Cape 12. MAG. 7.0
12h 22m 41s — 61° 12′.4.

1900.49	260°.8	1″.88	2.0	...	I	
1902.25	260.3	2.13	0.5	...	„	
1902.53	259.9	2.06	1.2	4, 2	„	
1901.76	260.3	2.02	1.2	4, 2	I	3 n

The angle is decreasing at the rate of 1° every 2 years.

Ref. Cat. 12h. No. 47. Lac. [5169]. 6.2
12h 23m 7s — 55° 50′.8.

A – B = Harvard.

1903.23	275°.4	27″.2	6.8	...	I	1 n

A – C. New.

1902.55	290°.5	49″.2	5.8	4, —	I	
1903.23	290.2	48.9	5.8	...	„	
1902.89	290.3	49.0	5.8	4, —	I	2 n

Ref. Cat. 12h. No. 48. Innes 36. 7.7
12h 23m 19s — 61° 19′.0.

1901.53	324°.4	21″.8	3.3	...	I	
1902.25	324.7	21.8	...	...	„	
1902.55	326.0	21.9	4.8	...	„	
1902.11	325.0	21.8	4.0	...	I	3 n

Ref. Cat. 12h. No. 49. Innes 218. 7.3
12h 23m 34s — 37° 24′.8.

1902.25	235°.0	2″.36	2.5	3, b	I	
1902.31	234.1	2.32	2.5	3, b	„	
1902.28	234.6	2.34	2.5	3, b	I	2 n

Ref. Cat. 12h. No. 52. Innes 309. 7.7
12h 25m 54s —77° 38′.5.

1901.54 and 1902.31		Single			I	2 n

Seen twice in 1898.

Digitized by Google

Ref. Cat. 12h. No. 53. Innes 82. MAG. 7.9
12h 25m 57s — 40° 57′.1.

1902.25	354°.0	0″.88	1.5	...	I	
1902.31	353.4	0.73	0.6	...	,,	
1902.28	353.7	0.80	1.0	...	I	2 n

The p.m. is 0″.09 towards 263°.7.

Ref. Cat. 12h. No. 54. Innes 219. 8.5
12h 26m 17s — 55° 34′.1.

1901.54	Not seen double.				I	
1902.25	51°.3	1″.65	1.0	...	,,	
1902.28	48.7	1.64	...	...	,,	
1902.26	50.0	1.64	1.0	...	I	2 n

Ref. Cat. 12h. No. 59. Innes 296. 6.4
12h 32m 49s — 74° 49′.2.

1900.52	273°.9	Poor	...	...	I	
1902.31	274.2	1″.90	2.7	2, o	,,	
1902.53	274.5	1.77	2.0	2, b	,,	
1901.79	274.2	1.84	2.3	2, o	I	3–2 n

The p.m. of this star is 0″.21 towards 349°.3.

Ref. Cat. 12h. No. 61. γ Centauri. 2.4
12h 36m 0s — 48° 24′.6.

A – B = *h* 4539.

1852.58	22°.5	″ ...	...	...	T.M.	
1852.60	23.8	0.3±	...	...	,,	
1852.61	22.4	...	...	...	,,	
1852.60	22.9	0.3±	...	...	T.M.	3 n
1900.36	357°.9	1″.50	0.1	...	I	
1900.52	356.6	...	...	...	,,	
1900.58	357.3	1.48	0.1	...	,,	
1900.49	357.3	1.49	0.1	...	I	3–2 n
1901.73	355°.1	1″.41	..	...	I	
1902.35	356.3	1.72	...	...	,,	
1902.36	355.2	1.35	...	...	,,	
1902.14	355.5	1.49	...	...	I	3 n

[contd.

						MAG.
1903.22	352°.8	1″.61	...	3, 3	I	
1903.22	353.8	1.07	0, 0	3, 3	,,	
1903.23	354.1	1.57	0, 0	3, 3	,,	
1903.22	353.6	1.42	0, 0	3, 3	I	3 n

A B – C = λ 159.

1902.35	118°.2	39″.0	11.6	...	I	
1902.36	116.9	40.0	...	...	,,	
1902.36	117.5	39.5	11.6	...	I	2 n

Although this faint companion is a very difficult object, the measures are fairly exact.

Previously we find

1897.1 121°.7 29″.8 12.1 ... See 1 n

which looks 10″ too small.

The system A – B is a well-known lunary.

The position angle at the present time may be taken either practically the same as in *h*'s time, viz., in 1835, in which case the period would be about 68 years; or differing from it by 180°, a thing which is quite possible, as the two components are so nearly equal in magnitude. In the latter case the period would be over 150 years.

Innes 324. G.P.Z. 8791. 8.5
12h 36m 59s — 83° 6′.8.

1902.31	278°.9	3″.90	0.8	...	I	
1902.35	279.5	3.88	0.8	...	,,	
1902.33	279.2	3.89	0.8	...	I	2 n

Ref. Cat. 12h. No. 65. *h* 4544. 9.0
12h 38m 39s — 78° 54′.8.

1902.35	298°.9	3″.09	2.0	3, B	I	
1902.53	298.6	3.01	3.0	...	,,	
1902.44	298.8	3.05	2.5	3, B	I	2 n

Ref. Cat. 12h. No. 66. Cordoba [27]. 8.3
12h 39m 21s — 61° 40′.2.

1900.51	99°.6	4″.98	1.5	5, b	I	
1903.23	98.1	4.80	...	6, b	,,	
1901.87	98.8	4.89	1.5	5½, b	I	2 n

Between two stars, 11.0 and 11.5 mags.

Digitized by Google

Ref. Cat. 12h. No. 67. ι Crucis. MAG. 4.7
12h 39m 45s — 60° 25′.9.

1900.36	34°.6	26″.8	...	...	I	
1900.48	34.3	26.8	...	...	L	
1900.42	34.4	26.8	[3.0]	4, B	Cape	2 n

The change in this pair since *h* is about accounted for by the p.m. of the chief star, viz., o″·12 towards 150°, but the meridian observations in *α* are scanty and uncertain.

My distance-measure of 1896.6 suffers from some error—the measure was referred to and no mistake found, it depends on two fairly accordant distances.

Ref. Cat. 12h. No. 68. β Muscæ. 3.3
12h 40m 9s — 67° 33′.6.

1900.27	346°.7	1″.59	...	...	L	
1900.44	343.4	...	...	...	,,	
1900.48	348.0	Poor	...	...	,,	
1900.40	346.0	1.59	...	...	L	3–1 n
1900.24	340.9	1.89	...	...	I	
1900.36	340.9	0.92	...	...	,,	
1900.48	341.3	1.17	...	...	,,	
1900.36	341.0	1.33	...	...	I	3 n
1901.65	342.6	1.11	0.3	Day	I	
1901.69	343.3	1.32	...	,,	,,	
1901.67	343.0	1.21	0.3	...	I	2 n
1902.25	344.4	1.19	...	...	I	
1902.53	344.7	1.12	0.1	3, 3	,,	
1902.39	344.5	1.16	0.1	3, 3	I	2 n

Innes 362. β Crucis. 1.6
12h 41m 52s — 59° 8′.5.

1900.52	322°.2	44″.2	9.8	...	I	
1902.31	322.3	44.3	...	...	,,	
1902.55	322.3	44.4	...	..	,,	
1901.79	322.3	44.3	9.8	o, —	I	3 n

Ref. Cat. 12h. No. 75. ι Octantis. 5.4
12h 44m 27s —84° 34′.8.

1902.55	No companion seen.	I	1 n

At Arequipa :—

1891.6	30°±	30″±	3.0	...	W.H.P.	1 n

Harvard. Lac. 5299. MAG. 6.3
12h 46m 39s — 53° 17′.2.

1902.55	211°.8	7″.01	4.0	4, b	I	
1903.22	210.0	6.09	4.0	5, —	,,	
1903.23	211.1	6.01	6.0	4, —	,,	
1903.00	211.0	6.37	4.7	4·3, —	I	3 n

The p.m. of the chief star is small.

No error of computation found in the 1st distance measure.

Ref. Cat. 12h. No. 77. Harvard. 5.8
12h 47m 24s — 59° 47′.1.

1900.24	No companion seen.	I	1 n

At Arequipa :—

1891.6	10°±	25″±	7.7	W.H.P.	1 n

Ref. Cat. 12h. No. 78. Innes 297. 8.3
12h 48m 12s —51° 43′ 9.

1900.38	247°.9	1″.93	1.5	...	I	
1900.51	251.9	1.73	...	...	,,	
1900 44	249.9	1.83	1.5	...	I	2 n

Ref. Cat. 12h. No. 82. Harvard. 5.6
12h 50m 4s — 56° 17′.6.

1900.38	315°.4	29″.1	4.9	...	I	
1900.52	314.2	29.5	4.9	...	,,	
1900.45	314.8	29.3	4.9	...	I	2 n

Ref. Cat. 12h. No. 83. Innes 83. 6.9
12h 50m 59s — 47° 8′.7.

1902.35	277°.9	0″.59	0.1	5, 5	I	
1902.40	276.5	0.48	...	3, 3	,,	
1902.37	277.2	0.54	0.1	4, 4	I	2 n

The p.m. is o″.10 towards 270°.

This star is called "double" in Brisbane's Catalogue, but unless there has been much change it could not have been seen double at Paramatta.

Digitized by Google

Ref. Cat. 12h. No. 87. [28]. **Cordoba** MAG. 8.0
12h 52m 47s — 70° 5′.6.

1900.48	269°.7	4″.11	[1.6]	...	L	1 n

Fixed.

Innes 363. **C.Z. 12h 3166.** **8.5**
12h 55m 7s — 67° 19′.0.

1902.31	193°.0	2″.60	1.2	2, b	I	
1902.35	195.5	2.63	1.3	...	,,	
1902.33	194.2	2.62	1.3	2, b	I	2 n

Cordoba. **C.Z. 12h 3298.** MAG. 8.5
12h 57m 18s — 59° 3′.8.

1902.35	355°.7	3″.36	0.1	...	I	
1902.53	356.2	3.75	0.0	3, 3	,,	
1902.44	356.0	3.56	0.1	3, 3	I	2 n

C.Z., 12h 3280, mag. 8.5 is 3′ S. pr.

Ref. Cat. 12h. No. 92. **λ 168.** **7.5**
12h 58m 2s —38° 25′.7.

1902.35	Looks single.	I	1 n

Digitized by Google

Ref. Cat. 13h. No. 1. *h* 4566. MAG. 6.6
13h 0m 18s — 77° 54′.6.

1900.29	228.2	30.0	5.4	...	I	
1900.33	228.1	29.5	...	...	L	
1900.31	228.1	29.8	5.4	...	Cape	2 n

The p.m. of the chief star is 0″.038 towards 269°.0.

Ref. Cat. 13h. No. 2. *f* Centauri. 4.9
13h 0m 29s — 47° 55′.6.

1900.24	78.1	12.0	...	—, 7	I	
1900.33	80.5	11.8	...	—, 0	L	
1900.38	77.9	11.6	...	—, 6	I	
1900.32	78.8	11.8	...	—, 4	Cape	3 n

Fixed.

Ref. Cat. 13h. No. 3. ξ_2 Centauri. 4.4
13h 1m 4s — 49° 22′.2.

1900.24	100.6	25.5	...	...	I	
1900.33	100.5	24.9	...	...	L	
1900.29	100.6	25.2	[5.5]	[4, B]	Cape	2 n

Common proper motion.

Ref. Cat. 13h. No. 10. Harvard. 6.3
13h 4m 57s — 69° 25′.6.

1900.29	279.4	30.7	4.6	...	I	
1900.56	279.5	30.7	4.6	...	„	
1900.42	279.5	30.7	4.6	...	I	2 n

Ref. Cat. 13h. No. 11. Cordoba [72]. 8.0
13h 5m 22s — 46° 45′.4.

1900.24	276.4	3.41	...	...	I	
1900.35	277.7	3.53	...	...	L	
1900.30	277.0	3.47	[0.5]	...	Cape	2 n

Ref. Cat. 13h. No. 13. Innes 310. 8.7
13h 5m 48s — 76° 55′.6.

1900.29	37.4	2.05	1.2	...	I	
1900.56	37.7	2.15	...	...	„	
1900.43	37.6	2.10	1.2	...	I	2 n

Ref. Cat. 13h. No. 14. Lac. 5418. MAG. 4.7
13h 6m 3s — 59° 23′.3.

A—B = λ 170

1901.58	Not seen double, not good defin.				I	
1902.53	Perhaps is double, doubtful.				„	
1902.53	„ double 130°				„	
1902.22	Duplicity doubtful.				I	3 n

Previously.

1897.1	96.3	0.34	0.0	...	See	2 n

Unless this star is in motion, it should have been seen double here.

A B—C = Innes 424

1902.53	344.8	1.41	3.0	...	I	
1902.53	346.1	1.69	3.5	...	„	
1902.53	345.5	1.55	3.2	...	I	2 n

This difficult companion was overlooked by previous observers.

A B—E = Harvard

1901.58	257.6	49.8	7.3	...	I	1 n

There is a 15th mag. star 360°±, 45″±, and many other faint stars about.

Cape 42. C.P.D. — 40°, 6088. 8.3
13h 7m 11s — 40° 12′.9.

1902.35	236.5	2.26	0.4	...	I	
1902.53	235.9	2.26	0.5	...	„	
1902.44	236.2	2.26	0.5	...	I	2 n

Found at the Transit Circle.

Innes 399. Lac. 5431. 7.5
13h 7m 37s — 62° 7′.4.

1901.58	140.1	8.32	3.5	4½, b	I	
1903.23	137.6	8.32	4.0	3, —	„	
1902.40	138.8	8.32	3.7	3.7, b	I	2 n

There is an 11m star 60″± S.

Digitized by Google

Harvard. Lac. 5456. MAG. 6.8
13h 11m 2s — 67° 58′.1.

1902.40	217.3	0″.39	...	...	I	
1902.53	211.4	0.52	...	...	„	
1902.53	209.8	0.47	0.5	1, 1	„	
1902.54	217.5	0.50	0.8	...	„	
1902.50	214.0	0.47	0.7	1, 1	I	4 n

The p.m. in α is very small and uncertain, in $\delta = -0''.02$.

Innes 425. C.Z. 13h 629. 8.7
13h 11m 46s — 40° 0′.8.

1902.53	321.0	1″.18	1.5	0, 0	I	
1902.53	319.7	0.92	1.5	...	„	
1902.53	320.3	1.05	1.5	0, 0	I	2 n

Ref. Cat. 13h. No. 26. J Centauri. 4.6
13h 16m 10s — 60° 27′.8.

In 1891.6, Professor W. H. Pickering found 4 small stars at from 25″ to 30″ ±. From observations in 1900.29 and 1900.56, these estimated distances seem considerably too small. In a region crowded with small stars.

Ref. Cat. 13h. No. 29. *h* 4580. 6.6
13h 17m 4s — 48° 2′.4.

1900.24	33° ±	A suspicion only.	I	
1900.33		Not seen double.	L	
1900.56		Single.	I	
1900.38		Single.	Cape	3 n

The p.m. is 0″.03 towards 286°.8.

One is inclined to think that *h* deceived himself as to the duplicity of this star.

Ref. Cat. 13h. No. 32. Cordoba [30]. 7.0
13h 19m 6s — 51° 19′.2.

1900.24	No double star here.	I	
1900.33	„ „	L	
1900.28	Single.	Cape	2 n

Ref. Cat. 13h. No. 33. Innes 220. MAG. 7.7
13h 19m 9s — 34° 6′.8.

1902.35	8.3	0″.63	1.5	3, 3	I	
1902.53	4.8	0.64	...	...	„	
1902.44	6.6	0.63	1.5	3, 3	I	2 n

Cape 32. C.P.D. — 52°, 6487. 8.4
13h 20m 1s — 52° 46′.0.

1901.58	263.1	4″.26	0.6	—, 6	I	
1902.53	263.1	4.08	1.0	...	„	
1902.06	263.1	4.17	0.8	—, 6	I	2 n

Found by Mr J. A. J. Pead at the Transit Circle.

Innes 400. C.Z. 13h 1224. 8.8
13h 21m 53s — 42° 40′.8.

1901.28	152.4	5″.59	1.5	2, —	I	
1901.58	153.9	4.62	...	6, b	„	
1903.23	151.5	4.75	3.0	3, b	„	
1902.03	152.6	4.99	2.2	3, b	I	3 n

In 1903:—The chief star looks double, but definition bad. Its p.m. is 0″.08 towards 223°.0.

There is a 14m star 15″ ± pr.

C. Z. 13 h. 1221, mag. 9.1, is closely N.pr.

Innes 364. C.Z. 13h 1342. 8.7
13h 24m 10s — 68° 36′.4.

A—B

1900.29	343.5	1″.17	2.0	Poor.	I	
1900.56		B not visible.			„	
1900.29	343.5	1.17	2.0	...	I	1 n

A—C

1900.29	212.0	6″.82	2.3	...	I	
1900.56	214.7	7.18	2.0	...	„	
1902.42	213.3	7.00	2.2	...	I	2 n

Digitized by Google

Ref. Cat. 13h. No. 42. Innes 298. MAG. 7.2
13h 25m 14s — 68° 43′.0.

1900.29	199°.7	0″.88	...	4, 4	I	
1900.56	203.3	0.73	...	...	„	
1902.31	204.2	0.80	1.3	4, 4	„	
1902.40	206.3	0.70	2.0	...	„	
1901.39	203.4	0.78	1.6	4, 4	I	4 n

Ref. Cat. 13h. No. 43. Russell 220. 9.0
13h 25m 25s — 57° 55′.4.

1900.56	228°.2	0″.84	0.3	...	I	1 n

The only measure published.

Ref. Cat. 13h. No. 44. λ 180. 6.6
13h 25m 29s — 41° 56′.9.

1901.28	229°.9	3″.54	2.0	3, B	I	
1901.58	231.3	3.87	3.0	5, B	„	
1901.43	230.6	3.70	2.5	4, B	I	2 n

There are a 15m star, 12″±, 83°±, and two brighter stars 20″—30″ N and S.

The p.m. of the chief star is 0″.05 towards 180°.0.

Ref. Cat. 13h. No. 45. Hargrave 86. 7.5
13h 25m 49s — 61° 49′.7.

1900.42	239°.1	1″.83	[0.5]	...	L	1 n

Fixed.

Ref. Cat. 13h. No. 50. Lac. 5589. 5.6
13h 30m 25s — 61° 10′.7.

A—B = Innes 365.

1900.29	234°.3	0″.3±	Bad definition.		I	
1900.56	233.0	0.3±	0.5	...	„	
1900.42	233.7	0.3±	0.5	...	I	2 n
1902.31	218°.4	0″.32	...	3, 3	I	
1902.53	213.3	0.34	0.2	3, 3	„	
1902.54	211.3	0.51	0.2	4, 4	„	
1902.46	214.3	0.39	0.2	3½, 3½	I	3 n

[contd.

MAG.

A B—C = Harvard

1902.31	214°±	...	[6.0]	...	I	1 n

C D and E found at Arequipa are distant faint stars.

Ref. Cat. 13h. No. 52. Innes 221. 7.2
13h 31m 6s — 31° 53′.5.

1902.53	165°.4	0″.52	1.5	...	I	
1902.54	170.0	0.61	...	...	„	
1902.54	167.7	0.56	1.5	...	I	2 n

Angle decreasing?

Ref. Cat. 13h. No. 54. λ 183. 8.0
13h 31m 58s — 31° 51′.0.

1902.53	Looks single.	I	1 n

Ref. Cat. 13h. No. 58. Cape 14. 8.5
13h 32m 25s — 41° 52′.6.

1900.24	287°.8	2″.57	...	...	I	
1900.35	288.0	2.92	...	...	L	
1900.42	283.8	2.78	...	...	„	
1900.54	283.7	3.09	...	...	„	
1900.39	285.8	2.84	[1.0]	...	Cape	4 n

The p.m. is 0″.07 towards 296°.0.

Ref. Cat. 13h. No. 61. *h* 4598. 6.7
13h 33m 9s — 74° 36′.5.

1900.56	47°.1	13″.0	3.5	...	I	
1903.23	46.5	13.1	4.0	3, —	„	
1901.90	46.8	13.1	3.8	3, —	I	2 n

The angle is increasing very slowly.

The p.m. is very small.

Ref. Cat. 13h. No. 68. Innes 223. 6.2
13h 40m 12s — 62° 5′.2.

1900.38	320°.2	9″.01	2.7	7, B	I	
1900.42	318.8	9.35	...	...	L	
1900.48	319.4	9.35	...	...	„	
1900.43	319.5	9.24	2.7	7, B	Cape	3 n

Digitized by Google

Ref. Cat. 13h. No. 69. M Centauri. MAG. 4.7
13h 40m 19s — 50° 55′.8.

At Arequipa :—

1891.6	210°±	30″±	6.4	...	W.H.P.

Here :—

1900.56	A 10th mag. star 30″ or 40″ pr				I
1901.31	310°±	40″±	7.4	...	,,

The p.m. is 0″·03 towards 162°·0.

Ref. Cat. 13h. No. 76. h 4616. 9.5
13h 44m 35s — 70° 40′.8.

1900.56	348°.7	4″.17	1.0	...	I	
1903.23	349.5	4.55	1.0	...	,,	
1901.90	349.1	4.36	1.0	...	I	2 n

The only complete measure.
Fixed.

Innes 401. C.Z. 13h 2913. 8.5
13h 48m 57s — 42° 5′.2.

1902.26	231°.7	0″.5±	0.0	3, 3	I	
1902.31	232.4	0.41	0.2	3, 3	,,	
1902.29	232.0	0.41	0.1	3, 3	I	2–1 n

C.Z. 13h 2915, mag. 9.1, blue, is closely N.f., and with the above star forms the old pair *h* 4625 :—

1835.3	8°.4	14″±	0.7	...	*h*	2 n
1882.5	6.8	13.7	0.5	...	Hargrave	1

Ref. Cat. 13h. No. 87. Russell 227. 6.4
13h 49m 46s — 53° 38′.5.

1900.30	353°.8	1″.61	2.0	...	I	
1900.48	354.3	1.74	...	...	L	
1900.39	354.0	1.67	2.0	...	Cape	2 n

Angle and distance are increasing slowly.

Ref. Cat. 13h. No. 89. Dunlop 151. 7.0
13h 50m 40s — 55° 32′.9.

1900.50	26°.2	14″.1	...	...	L	
1900.50	26.5	14.1	...	...	,,	
1900.50	26.4	14.1	[1.4]	[0, B]	L	2 n

Ref. Cat. 13h. No. 90. h 4630. MAG. 8.2
13h 50m 53s — 65° 9′.1.

1900.50	313°.0	4″.15	...	...	L	
1900.51	313.9	4.18	...	...	,,	
1900.51	313.4	4.17	[0.3]	...	L	2 n

Ref. Cat. 13h. No. 91. h 4632. 6.2
13h 51m 3s — 65° 18′.7.

1900.50	14°.9	6″.44	...	...	L	
1900.51	13.8	6.45	...	...	,,	
1900.51	14.3	6.44	[4.4]	...	L	2 n

There is a faint companion at 50°±, 30″±.

Ref. Cat. 13h. No. 94. h 4636. 8.9
13h 51m 45s — 39° 29′.3.

1901.60	33°.5	Clouded	0.7	...	I	1 n

Ref. Cat. 13h. No. 96. Harvard. 6.3
13h 53m 21s — 65° 46′.9.

1901.58	196°.7	46″.2	5.6	...	I	1 n

Many faint stars in the field, a 15m at 317°±, 47″±.

Ref. Cat. 13h. No. 98. Innes 225. 7.2
13h 54m 14s — 62° 28′.0.

1900.38	305°.4	2″.42	3.8	...	I	
1901.58	299.9	2.15	3.5	5, b	,,	
1902.26	299.8	...	...	...	,,	
1901.41	301.7	2.28	3.7	5, b	I	3–2 n

Several very faint stars 30″± pr., a multitude of small stars within 1′.

Ref. Cat. 13h. No. 99. Russell 231. 9.0
13h 54m 26s — 66° 41′.6.

1901.58	163°.0	3″.88	0.7	3, b	I	1 n

Three faint stars within about 20″.

Digitized by Google

Ref. Cat. 14h. No. 2. θ Centauri. MAG. 2.2
14h 0m 48s — 35° 52′.7.

1900.42	No close companion.				L	1 n

Ref. Cat. 14h. No. 3. Sellors 19. 6.6
14h 1m 13s — 49° 23′.6.

1901.58	244°.0	0″.89	0.2	3, 3	I	1 n

Common p.m. of 0″.134 towards 338°.7.
The angle has increased 14° in 6 years.

Ref. Cat. 14h. No. 4. *h* 4649. 8.3
14h 2m 0s — 59° 14′.9.

1901.58	246°.3	8″.40	0.2	6, 5	I	1 n

Fixed.

Ref. Cat. 14h. No. 13. Harvard. 5.2
14h 7m 59s — 56° 37′.0.

1900.58	169°.5	34″.3	5.8	...	I	
1903.23	169.3	33.6	...	...	,,	
1901.90	169.4	33.9	5.8	...	I	2 n

An 11.5 mag. star S. pr. with the above forms an isoceles triangle.

Ref. Cat. 14h. No. 14. Harvard. 5.9
14h 8m 45s — 66° 7′.3.

1900.56	307°.2	23″.5	6.1	...	I	
1903.23	307.0	24.1	7.1	...	,,	
1901.90	307.1	23.8	6.6	...	I	2 n

Ref. Cat. 14h. No. 16. R Centauri. 6.0, 9.8
14h 9m 22s — 59° 26′.9.

1900.56	217°.8	28″.0	12.0m	...	I	
1900.58	217.5	27.9	12.5	...	,,	
1900.57	217.6	28.0	12.2	...	I	2 n

There is a small pair 10.5 and 11.5 mags., 35″± N. pr.
The Arequipa companion :—

1891.6	355°±	30″±	12.0m	...	W.H.P.

was not seen.

Innes 325. C.Z. 14h 602. MAG. 8.7
14h 11m 16s — 68° 10′.2.

A—B

1900.56	42°.9	52″.3	1.5	...	I	1 n

A—C

1902.55	43°.9	44″.5	[1.3]	...	I	1 n

B—C

1900.56	220°.6	8″.53	0.5	...	I	
1902.55	222.5	7.98	...	...	,,	
1901.56	221.6	8.26	0.5	...	I	2 n

There is a 13th mag. star midway between A and C.

Ref. Cat. 14h. No. 20. *h* 4667. 7.3
14h 13m 19s — 73° 5′.8.

1901.58	143°.3	2″.32	0.3	2, b	I	
1901.61	141.8	2.23	0.3	...	,,	
1901.60	142.5	2.27	0.3	2, b	I	2 n

The angle is perhaps increasing, *h* 1835, 138°.

Ref. Cat. 14h. No. 23. *h* 4672. 5.7
14h 13m 53s — 42° 35′.9.

The common proper motion of this system is 0″.12 towards 245°.6.

Ref. Cat. 14h. No. 28. Dunlop 159. 4.9
14h 15m 27s — 58° 0′.1.

A—B

1901.61	161°.7	9″.52	...	5,—	I	
1903.18	160.2	9.51	2.0	4, B	,,	
1902.40	161.0	9.51	2.0	4½, B	I	2 n

Fixed.

A—C New, 1901.

1903.18	255°.0	20″.7	8.5	...	I	1 n

A—D

1901.61	4°.1	45″.6	...	...	I	
1903.18	4.0	45.6	5.5	...	,,	
1902.40	4.0	45.6	5.5	...	I	2 n

Digitized by Google

Ref. Cat. 14h. No. 29. Russell 244. MAG. 6.3
14h 16m 6s — 47° 51′.8.

1902.33	123°.6	4″.31	2.5	3, B	I	
1902.48	123.1	3.72	3.0	...	,,	
1902.40	123.4	4.01	2.8	3, B	I	2 n

The p.m. is o″.04 towards 257°.2.

Ref. Cat. 14h. No. 33. Ormond Stone. 7.3
14h 19m 25s — 27° 40′.5.

1902.53	280°.9	o″.60	1.5	5, 5	I	
1902.55	284.6	0.59	1.0	4, 4	,,	
1902.54	282.7	0.60	1.2	4½, 4½	I	2 n

Innes 402. τ_2 Lupi. 4.4
14h 19m 45s — 44° 55′.6.

1901.58	177°.1	Poor defin.		4, 4	I	
1902.51	178.4	0.29	...	...	,,	
1902.55	173.3	0.27	...	...	,,	
1902.58	178.5	0.35	...	...	,,	
1902.30	176.8	0.30	[0.1]	4, 4	I	4–3 n

The p.m. is o″.04 towards 244°.0.

Ref. Cat. 14h. No. 35. Cordoba [35]. 8.2
14h 20m 37s — 23° 45′.7.

1902.53	133°.1	2″.24	1.2	2, b	I	
1902.55	134.2	2.38	1.5	...	,,	
1902.54	133.6	2.31	1.3	2, b	I	2 n

Ref. Cat. 14h. No. 36. Harvard. 5.9
14h 20m 45s — 45° 40′.9.

1900.48	143°.4	26″.9	5.0	...	I	1 n

Another *comes*, 11.5m, 195°±, 30°±.

Innes 326. Lac. 5902. 7.2
14h 21m 22s — 75° 49′.6.

1901.26	117°.7	2″.38	3.0	4, b	I	
1901.58	123.8	2.45	...	5, b	,,	
1901.61	123.8	2.07	3.0	6, B	,,	
1901.48	121.8	2.30	3.0	5, b	I	3 n

Ref. Cat. 14h. No. 39. [Harvard.] MAG. 6.1
14h 22m 55s — 67° 16′.1.

1901.58	193°.8	35″.4	7.7	...	I	1 n

Very difficult.

The 3 companions discovered at Arequipa could not be seen.

The p.m. of the chief star is o″.06 towards 180°.0.

Ref. Cat. 14h. No. 41. Harvard. 5.5
14h 23m 41s — 49° 4′.3.

A—B

1900.48	19°.0	22″.2	6.0	...	I	
1900.59	16.9	...	6.0	...	,,	
1900.54	18.0	22.2	6.0	...	I	2 n

C is about 200°, 60″±.

Innes 426. Piazzi 14h 87. 5.7
14h 23m 42s — 44° 52′.4.

1902.58	309°.9	10″.4	4.4	...	I	
1903.18	313.6	10.5	5.0	2, —	,,	
1902.88	311.7	10.4	4.7	2, —	I	2 n

The p.m. of the chief star is o″.077 towards 270°.0.

Ref. Cat. 14h. No. 46. Harvard. 5.9
14h 26m 36s — 52° 14′.2.

1901.58	180°±	15″±	8.5	4, —	I	1 n

Too faint to measure.

Ref. Cat. 14h. No. 47. β 1112. 6.1
14h 27m 14s — 30° 16′.4.

1902.55	5°.7	2″.31	3.0	4, b	I	
1902.58	6.4	2.40	3.0	4, b	,,	
1902.56	6.0	2.36	3.0	4, b	I	2 n

No certain change since 1889.

Harvard. Lac. 5985. 7.1
14h 27m 27s — 32° 52′.5.

1902.53	158°.9	14″.3	4.0	5, B	I	
1902.55	158.6	14.1	...	3, —	,,	
1902.54	158.7	14.2	4.0	4, b	I	2 n

The p.m. is very small.

Digitized by Google

Ref. Cat. 14h. No. 48. *h* 4685. MAG. 9.0
14h 28m 18s — 45° 43′.4.

1902.26.	79°.6	2″.45	1.0	1, b	I	
1902.48	80.3	2.35	0.5	...	„	
1902.37	80.0	2.40	0.8	1, b	I	2 n

Ref. Cat. 14h. No. 53. *h* 4687. 7.7
14h 29m 29s — 36° 6′.8.

1902.55	91°.0	1″.30	...	...	I	
1902.58	91.5	1.78	0.1	...	„	
1902.57	91.2	1.54	0.1	...	I	2 n

The angle is increasing slowly with a decreasing distance.

Ref. Cat. 14h. No. 54. Harvard. 5.5
14h 29m 46s — 45° 48′.5.

1900.48	100°±	40″±	6.7	...	I	1 n

Ref. Cat. 14h. No. 55. Cordoba [36]. 8.4
14h 30m 6s — 59° 55′.2.

1900.37	144°.5	3″.91	1.2	...	I	
1900.48	144.8	4.10	0.5	...	„	
1900.42	144.7	4.01	0.9	...	I	2 n

Ref. Cat. 14h. No. 56. *a* Lupi. 5.4
14h 30m 37s — 45° 41′.8.

1902.48	25°.4	19″.3	.	3½, B	I	
1902.53	24.9	19.1	...	5, B	„	
1902.51	25.2	19.2	[2.3]	4½, B	I	2 n

Innes 367. C.Z. 14h 1895. 8.0
14h 31m 37s — 64° 16′.7.

1900.30	357°.2	4″.69	2.4	...	I	
1900.42	353.4	4.53	3.0	...	„	
1903.18	357.6	4.15	4.0	3,—	„	
1901.30	356.1	4.46	3.1	3,—	I	3 n

Ref. Cat. 14h. No. 59. *a* Centauri. MAG. —0.1
14h 32m 48s — 60° 25′.4.

1849.87	245°.3	″ ...	...	...	T.M.	
.94	245.3	6.97	...	...	„	
1850.04	245.9	7.12	...	...	„	
.10	246.6	7.01	...	...	„	
.16	247.5	7.17	...	...	„	
.18	244.9	7.23	...	...	„	
.19	244.3	7.19	...	...	„	
.19	245.3	6.66	...	...	„	
.19	245.5	6.83	...	...	„	
.20	245.5	6.98	...	...	„	
.20	245.5	6.95	...	...	„	
.20	246.1	6.75	...	...	„	
.26	245.8	6.88	...	...	„	
.28	247.0	6.81	...	...	„	
.35	248.2	6.70	...	...	„	
.37	247.5	6.61	...	...	„	
.55	248.7	6.64	...	...	„	
.62	248.9	6.52	...	...	„	
.66	249.0	6.58	...	...	„	
.87	251.7	6.00	...	...	„	
.87	...	6.08	...	...	„	
.90	251.2	...	...	...	„	
1851.00	252.4	...	...	...	„	
.01	252.1	6.00	...	...	„	
.05	252.3	6.06	...	...	„	
.05	252.6	6.24	...	...	„	
.15	252.5	6.15	...	...	„	
.24	252.7	6.08	...	...	„	
.31	253.9	5.99	...	...	„	
.32	254.6	6.26	...	...	„	
.34	254.7	6.03	...	...	„	
.37	253.7	5.93	...	...	„	
.48	254.4	5.98	...	...	„	
.65	254.9	5.91	...	...	„	
.65	254.2	5.75	...	...	„	
.82	256.6	5.66	...	...	„	
.95	256.4	5.89	...	...	„	
.96	256.8	5.74	...	...	„	
1852.21	259.8	5.68	...	...	„	
.25	258.4	6.00	...	...	„	
.27	259.2	5.56	...	...	„	
.41	260.4	5.22	...	...	„	
.42	261.8	5.34	...	...	„	
.43	262.3	5.34	...	...	„	
.44	261.8	5.18	...	...	„	
.44	261.3	5.26	...	...	„	

[contd.

Digitized by Google

1852.53	262.°0	5.″21	...	...	T.M.
.56	262.6	5.17	...	...	„
.57	263.0	4.98	...	...	„
.60	263.6	5.10	...	...	„
.61	263.1	5.18	...	...	„
.61	263.0	5 17	...	...	„
.61	262.9	5.20	...	...	„
.67	261.8	5.62	...	...	„
.68	262.1	5.19	...	...	„
.75	262.7	...	...	...	„
.76	262.5	...	...	...	„
.76	263.0	...	...	...	„
.83	263.2	...	...	...	„
.83	264.2	4.91	...	...	„
.83	264.4	5.00	...	...	„
1853.03	[265.6]	...	...	...	„
.04	266.0	4.72	...	...	„
.15	267.6	...	...	...	„
.16	266.0	4.90	...	...	„
.27	268.0	4.81	...	...	„
.29	268.4	4.90	...	...	„
.29	268.2	4.94	...	...	„
.31	269.0	4.91	...	...	„
.37	267.8	4.89	...	...	„
.38	270.1	4.76	...	...	„
.39	269.5	4.71	...	...	„
.41	270.6	4.78	...	...	„
.42	269.9	4.85	...	...	„
.44	270.4	4.69	...	...	„
.48	270.5	4.85	...	...	„
.52	271.1	4.72	...	...	„
.55	272.3	...	...	...	„
.62	272.0	4.57	...	...	„
.61	272.3	4.45	...	...	„
.84	275.4	4.16	...	...	„
.89	274.8	...	...	...	„
.96	275.7	4.51	...	...	„
.96	275.3	4.55	...	...	„
1854.13	276.7	4.51	...	...	„
.24	280.4	4.57	...	...	„
.34	279.5	4.77	...	...	„
.38	281.2	4.75	...	...	„
.39	281.4	4.30	...	...	W. S. Jacob.
.57	281.8	4.53	...	...	T.M.
.58	282.0	4.45	...	...	„
.70	284.5	4.47	...	...	„
.71	282.7	4.21	...	...	„
.73	283.2	4.39	...	...	„

[contd.

1854.86	286.°3	″...	...	...	T.M.
.87	285.5	4.00	...	...	„
.89	285.4	3.86	...	...	„
.91	286.0	3.98	...	...	„
1855.04	286.6	4.56	...	...	„
.24	289.8	4.19	...	...	„
.29	291.5	4.38	...	...	„
.34	291.5	4.56	...	...	„
.35	292.1	4.29	...	...	„
.35	291.4	4.46	...	...	„
.39	293.1	4.13	...	...	,
.85	300·5	...	...	...	„
.85	300.1	3.84	...	...	„
1856.04	302.1	3.92	...	...	„
.07	303.6	3.80	...	...	„
.08	302.8	3.87	...	...	„
.10	302.7	3.90	...	...	„
.15	303.1	3.75	...	...	„
.39	306.9	4.05	...	...	„
.88	309.9	...	...	...	W.M.
.90	315.4	4.08	...	...	„
.90	312.4	4.67	...	...	G.M.
.91	311.4	5.69	...	...	„
.91	309.8	4.09	...	...	W.M.
.91	309.3	...	...	...	„
.92	309.3	4.09	...	...	„
.92	312.5	3.80	...	...	G.M.
.93	312.6	5.05	...	...	„
.93	309.5	4.12	...	...	W.M.
.93	311.6	5.66	...	...	G.M.
.94	313.3	3.57	...	...	„
.94	309.3	4.13	...	...	W.M.
.94	310.7	4.10	...	...	G.M.
.94	309.1	4.07	...	...	W.M.
.94	309.7	4.01	...	...	„
.94	312.6	3.35	...	...	G.M.
.95	311.5	3.88	...	...	„
.95	309.8	4.02	...	...	W.M.
.95	309.8	3.95	...	...	„
.96	312.5	3.65	...	...	G.M.
.96	313.5	4.05	...	...	„
.97	314.2	3.96	...	...	„
1857.01	317.0	4.13	...	...	W.M.
.39	320.8	...	...	...	T.M.
.39	320.5	4.47	...	...	„
.75	322.2	5.80	..	...	G.M.

[contd.

Digitized by Google

1857.80	327.4	6.25	...	...	G.M.	
.80	327.1	6.42	...	...	,,	
.82	327.3	5.92	...	...	,,	
.82	327.9	5.27	...	...	,,	
.85	327.1	5.07	...	...	,,	
.87	327.3	4.83	...	...	,,	
.89	325.6	4.47	...	...	,,	Zero altered? If so, increase angles by + 1°.7.
.89	323.8	4.50	...	...	,,	
.91	326.2	4.33	...	...	,,	
.91	325.6	4.70	...	...	,,	
.92	324.2	4.69	...	...	,,	
.92	325.4	4.67	...	...	,,	
1859.20	337.7	5.12	...	...	T.M.	
.23	339.8	5.06	...	...	,,	
.24?	340.9	4.85	...	...	W. Bailey	The error of date will not exceed 0.01.
.24?	339.6	5.20	...	...	T.M.	
.25	339.2	5.05	...	...	,,	
.35	343.6	5.08	...	...	W.M.	
.49	342.8	4.92	...	...	,,	
.62	344.1	5.32	...	...	,,	
.95	345.1	5.00	...	...	,,	
1860.00	348.0	5.06	...	...	W.M.	
.05	346.9	6.61	...	...	G.M.	
.09	348.8	...	...	...	(T.M.)	
.14	348.4	5.40	...	...	T.M.	
.24	349.3	...	...	...	,,	
.24	350.0	5.52	...	...	,,	
.33	347.9	5.50	...	...	,,	
.36	349.1	5.35	...	...	,,	
.36	350.1	5.63	...	...	,,	
1861.08	353.4	6.02	...	...	T.M.	
.09	353.4	6.03	...	...	,,	
.10	354.2	6.24	...	...	,,	
1862.56	1.9	7.66	...	...	T.M.	
.56	1.2	7.47	...	...	,,	
.56	0.7	7.49	...	...	,,	
1864.03	7.1	8.84	...	...	G.M.	
.04	7.1	8.41	...	...	,,	
.05	6.7	8.39	...	...	,,	
.05	6.3	8.62	...	...	,,	
.06	6.6	8.18	...	...	,,	

[contd.

1864.07	6.3	8.52	...	...	G.M.
.84	9.6	8.23	...	...	,,
.85	9.7	8.14	...	...	,,
.85	10.0	8.66	...	...	,,
.86	9.5	8.10	...	...	,,
.87	9.9	9.08	...	...	,,
.87	9.6	8.45	...	...	,,
.88	9.6	8.70	...	...	,,
.89	9.3	8.56	...	...	,,
.93	10.3	8.61	...	...	,,
1867.59	16.0	10.28	...	...	G.M.
.59	15.5	10.66	...	...	C. Fisher
1868.37	19.6	12.39	..	...	G.M.
.38	13.5	10.19	...	...	W.M.
.38	13.6	10.39	...	...	,,

Measures with the 18-inch refractor.

1900.046	210.5	21.70	...	...	I
1900.046	210.8	22.02	...	...	L
1900.050	209.7	21.52	...	...	I
1900.050	210.2	21.59	...	...	L
1900.063	210.9	21.60	...	...	,,
1900.068	211.1	21.47	...	...	,,
1900.070	210.2	21.71	...	...	,,
1900.070	210.0	21.65	...	...	I
1900.084	clouded	21.67	...	...	,,
1900.103	210.0	21.79	...	...	,,
1900.106	210.9	21.65	...	...	L
1900.114	210.2	21.51	...	...	,,
1900.370	209.8	21.98	...	...	I
1900.417	210.9	21.82	...	...	L
1900.417	211.1	21.80	...	...	I
1900.477	209.7	21.72	...	...	,,
1900.480	209.9	21.97	...	...	,,
1900.483	210.1	21.83	...	...	L
1900.497	210.2	21.82	...	...	I
1900.502	210.0	21.69	...	...	L
1900.504	210.3	21.46	...	...	,,
1900.507	210.5	21.81	...	...	,,
1900.510	210.5	21.76	...	...	,,
1900.546	210.3	21.74	...	...	,,
1900.581	209.7	21.52	...	...	I
1900.597	209.9	21.55	...	...	,,
1900.614	209.8	21.83	...	...	,,
1900.618	210.5	21.56	...	...	L
1900.652	210.5	21.66	...	...	I

[contd.

4425144
Digitized by Google

1900.653	210°.8	21".63	...	...	L	
1900.657	210.0	21.84	...	...	I	
1900.660	210.7	21.70	...	...	L	
1900.690	210.5	21.57	...	...	I	
1900.729	210.5	21.60	...	...	,,	
1900.789	210.4	21.65	...	...	,,	
1900.835	210.3	21.74	...	...	,,	
1900.072	210.4	21.66	...	...	Cape	12 n
1900.476	210.3	21.78	...	...	,,	12 n
1900.673	210.3	21.66	...	...	,,	12 n
1901.026	210°.7	21".59	...	...	I	
1901.029	210.8	21.61	...	...	,,	
1901.046	211.3	21.63	...	...	,,	
1901.053	209.6	21.58	...	...	,,	
1901.053	210.5	21.51	...	...	Gill	
1901.056	210.6	21.82	...	...	I	
1901.056	210.6	21.83	...	...	Gill	
1901.072	210.6	21.97	...	...	I	
1901.072	210.0	21.74	...	...	Gill	
1901.076	210.5	21.70	...	...	I	
1901.081	210.6	21.77	...	...	,,	
1901.081	210.6	21·81	...	...	Gill	
1901.092	210.7	21.56	...	...	I	
1901.092	210.7	clouded	...	...	Gill	
1901.103	211.4	21.85	...	...	I	
1901.106	211.0	21.76	...	...	Gill	
1901.109	211.2	21.57	...	...	I	
1901.222	209.8	21.34	...	...	,,	
1901.263	210.7	21.96	...	2, 4	,,	
1901.271	210.6	21.90	...	...	,,	
1901.282	211.3	21.79	...	1, 3	,,	
1901.520	211.0	21.60	...	...	,,	
1901.548	210.4	21.92	...	1, 3	,,	
1901.576	210.7	21.65	...	1, 3	,,	
1901.608	210.7	21.84	...	2, 5	,,	
1901.613	210.8	21.79	...	1, 4	,,	
1901.644	210.3	21.73	...	...	,,	
1901.786	211.0	21.81	...	...	,,	
1901.833	210.1	21.32	...	...	,,	
1901.846	210.3	21.83	...	...	,,	
1901.896	211.3	21.74	...	...	,,	
1901.910	210.6	21.61	...	...	,,	
1901.923	210.7	21.64	...	...	,,	
1901.056	210.5	21.70	...	...	Cape	11 n
1901.195	210.8	21.72	...	1.5, 3.5	,,	11 n
1901.744	210.6	21.72	...	1.2, 3.7	I	11 n

[contd.

1902.107	210°.6	21".82	...	...	I	
1902.107	211.1	clouded	...	...	Gill	
1902.126	211.4	21.46	...	...	I	
1902.137	211.8	21.60	...	...	,,	
1902.151	211.1	21.60	...	...	,,	
1902.257	210.8	21.52	...	...	,,	
1902.310	211.5	21.83	...	...	,,	
1902.312	212.0	21.60	...	2, 4	,,	
1902.334	210.8	21.67	...	...	,,	
1902.351	211.3	21.63	...	1, 3	,,	
1902.219	211.2	21.64	...	1.5, 3.5	Cape	10 n
1903.179	211°.0	21".84	1.5	2, 4	I	
1903.181	211.4	21.57	..	...	,,	
1903.185	210.9	21.82	..	...	,,	
1903.212	211.4	21.71	...	...	,,	
1903.216	210.8	21.67	...	...	,,	
1903.225	211.5	21.60	1.0	3, 4	,,	
1903.228	211.3	21.57	1.0	2, 4	,,	
1903.233	211.2	21.76	...	...	,,	
1903.236	211.2	21.55	...	...	,,	
1903.241	211.5	21.57	...	...	,,	
1903.214	211.2	21.67	1.2	2.3, 4	I	10 n

We have for comparison with these measures the following ephemerides :—

Date	Roberts (A.N. 3313)		Doberck (A.N. 3330)		See (M.N. lix.)	
1900.5	209°.9	21".94	210°.4	21".79	210°.0	21".96
1901.5	210.4	21.94	210.8	21·73	210.4	21.95
1902.5	210.8	21.88	211.3	21.61	210.8	21.89
1903.5	211.3	21.78	211.8	21.47	211.3	21·79

against which we have—with sufficient accuracy—by interpolation from the actual observations :—

Cape observations	1900.5	210°.3	21".70
,,	1901.5	210.7	21.71
,,	1902.5	211.2	21.62
,,	1903.5	211.4	21.62

The accordance with Doberck's ephemeris is fairly satisfactory.

Besides the measures of the chief pair, some small stars in the field of α Centauri have also been measured. These had all been previously observed at Arequipa, and the position angles and distances estimated. A diagram of the field has been published in the *Monthly Notices*, vol. lxi., p. 615, and it is further shown there, that none of the stars measured or estimated at this observatory belong to the α Centauri system.

[contd.

Digitized by Google

					MAG.	
Arequipa star *d*	1900.48	236°.9	32″.6	I		*very poor obs.*
„ „ *g*	1900.33	265.0	69.7	L		
„ „ „	1900.37	264.3	69.1	I		
„ „ „	1900.35	264.7	69.4	Cape		2 n
„ „ *c*	1900.33	42.2	...	L		
„ „ „	1900.42	42.8	71.7	„		
„ „ „	1900.50	43.2	72.4	„		
„ „ „	1900.66	43.9	72.3	„		
„ „ „	1900.48	43.0	72.1	L		4–3 n
„ „ *f*	1900.42	350.9	...	L		1 n

Ref. Cat. 14h. No. 63. *a* Circini 3.4
14h 34m 25s — 64° 32′.4.

1900.36	237°.2	15″.9	...	...	I	
1900.48	236.4	15.9	...	...	„	
1903.18	235.4	15.8	4.0	2, 8	„	
1903.22	236.6	15.7	...	2, 7	„	
1901.81	236.4	15.8	4.0	2, 7½	I	4 n

The angle is decreasing slowly.

The distance is constant, within the errors of observation.

Ref. Cat. 14h. No. 66. *a* Lupi. 2.6
14h 35m 17s — 46° 57′.5.

1901.58	232°.1	27″.6	11.5	...	I	1 n

Very difficult.

The p.m. is 0″.044 towards 229°.1

Ref. Cat. 14h. No. 71. Cordoba. 8.3
14h 36m 44s — 75° 33′.5.

1901.58	120°.9	12″.0	1.5	...	I	1 n

A 13th mag. star forms a neat triangle with this pair.

Ref. Cat. 14h. No. 73. Harvard. 5.4
14h 37m 21s — 62° 26′.9.

1900.48	63°.1	36″.4	3.8	...	I	
1900.56	65.0	36.2	4.8	...	„	
1900.52	64.0	36.3	4.3	...	I	2 n

The p.m. of the chief star is 0″.11 towards 157°.5.

Innes 368. C.Z. 14h 2255. MAG. 9.2
14h 37m 35s — 62° 25′.1.

1900.48	4°.2	3″.41	1.0	...	I	
1900.50	1.6	3.51	1.0	...	„	
1901.58	4.0	3.21	1.2	2, b	„	
1900.85	3.3	3.38	1.1	2, b	I	3 n

Closely N.f. the last star.

Ref. Cat. 14h. No. 75. Harvard. 6.2
14h 37m 58s — 55° 10′.6.

1901.58 The only companion seen is due f, 90°±, and is much nearer Bris. 5026, mag. 7.5, colour 6, than Lac. 6057, the Harvard star. I 1 n

Ref. Cat. 14h. No. 77. Innes 235. 7.2
14h 39m 10s — 68° 5′.9.

1900.48	110°.1	0″.72	...	...	I	
1900.50	112.3	0.65	0.7	...	„	
1900.49	111.2	0.68	0.7	...	I	2 n

The p.m. is small.

Ref. Cat. 14h. No. 78. *h* 4696. 7.2
14h 39m 24s — 44° 26′.7.

1900.51 No close companion; a 12m star is 50″± pr. I 1 n

The p.m. of the chief star is small.

Ref. Cat. 14h. No. 80. *m* Hydræ. 5.1
14h 40m 13s — 25° 1′.1.

1900.36	129°.7	8″.98	..	...	I	
1900.48	130.0	8.93	...	...	L	
1900.42	129.8	8.95	[1·9]	...	Cape	2 n

Fixed.

On the occasion of the first observation, it was noted "Both stars round."

Ref. Cat. 14h. No. 81. Harvard. 6.3
14h 40m 13s — 51° 47′.1.

1900.51	290°.6	39″.3	5.0	...	I	1 n

There is a 10.5 mag. star N.f.

The p.m. of the chief star, Lac. 6074, is very small.

Digitized by Google

Ref. Cat. 14h. No. 82. Harvard. MAG. 6.1
14h 40m 16s — 66° 10′.4.

The Arequipa companion to this star is C.Z. 14h 2441; see next entry.

Bris. 5037, mag. 8.2, is near. It has an 11th mag. companion at 150°±, 30″±.

Innes 369. C.Z. 14h 2441. 8.5
14h 40m 21s — 66° 9′.9.

1900.48	239°.6	2″.41	2.0	...	I	
1900.50	243.8	2.92	2.6	...	„	
1900.49	241.7	2.67	2.3	...	I	2 n

With Lac. 6059 this star forms one of the wide Arequipa pairs.

That the small star itself was double does not seem to have been noticed at Arequipa.

h 4695. Lac. 6044. 6.8
14h 40m 59s — 74° 31′.0.

1901.58	290°.2	17″.5	4.1	...	I	1 n

Previously:—

1835.5	292°.1	15″±	4.1	...	*h*	1 n
1872	Not found.			...	Russell	1
1899	290°±	17″±	6.1	...	Bailey	2

The p.m. is very small.

Ref. Cat. 14h. No. 88. Innes 236. 5.6
14h 43m 13s — 72° 46′.7.

1900.30	101°.9	1″.58	3.4	3, b	I	
1900.50	104.6	...	...	...	„	
1900.51	102.3	1.64	...	...	L	
1902.51	101.6	1.69	...	3, b	I	
1902.53	101.5	1.95	2.0	4, b	„	
1901.27	102.4	1.71	2.7	3⅓, b	Cape	5–4 n

Common p.m. of 0″.06 towards 144°.3.

Previously:—

1891.6	90°±	0″.6±	5.4	...	W.H.P.	1 n
1897.5	92° ±	1.9±	3.4	...	I	1

Ref. Cat. 14h. No. 92. h 4707. MAG. 7.7
14h 45m 46s — 66° 0′.2.

1900.50	122°.2	0″.61	0.1	...	I	
1900.51	118.2	0.64	...	...	„	
1902.53	118.6	0.58	0.3	3, 3	„	
1901.18	119.7	0.61	0.2	3, 3	I	3 n

A binary with large common proper motion.

Ref. Cat. 14h. No. 95. Innes 226. 7.0
14h 48m 17s — 33° 44′.0.

1901.27	Not seen, hazy.			...	I	
1902.31	218°.1	2″.45	4.5	...	„	
1902.51	218.6	2.64	4.0	...	„	
1902.41	218.4	2.55	4.2	...	I	2 n

There is a fainter star in the same direction at about 30″.

Innes 327. C.Z. 14h 2950. 8.0
14h 48m 33s — 66° 27′.9.

1900.50	78°.1	3″.09	3.0	...	I	
1900.56	76.1	...	...	...	„	
1900.53	77°.1	3.09	3.0	...	I	2–1 n

Ref. Cat. 14h. No. 98. Innes 84. 7.5
14h 48m 41s — 36° 1′.3.

1901.27	259°.7	4″.05	3.0	—, 7	I	
1901.52	260.5	4.13	3.0	...	„	
1901.40	260.1	4.09	3.0	—, 7	I	2 n

There is an 11th mag. star 20″ N.f.

Innes 427. G.P.Z. 10498. 8.8
14h 48m 46s — 70° 31′.5.

1902.51	347°.9	2″.13	1.5	...	I	
1902.53	346.7	1.93	1.8	...	„	
1902.52	347.3	2.03	1.6	...	I	2 n

Digitized by Google

Innes 328. G.P.Z. 10411. MAG. 9.0
14h 49m 5s — 84° 46′.2.

1902.51	174°.9	2″.08	0.7	...	I	
1902.53	176.4	2.14	1.0	...	,,	
1902.52	175.6	2.11	0.8	...	I	2 n

Ref. Cat. 14h. No. 102. Innes 227. 7.3
14h 50m 21s — 34° 13′.6.

1902.31	89°.2	0″.40	0.5	...	I	
1902.51	90.3	0.40	0.0	3, 3	,,	
1902.41	89.8	0.40	0.3	3, 3	I	2 n

Distance and angle decreasing :—

1897.4	110°±	0″.9±	...	...	I	1 n
1897.4	100.0	0.76	...	...	See	1
1899.4	94.8	0.56	...	...	Cogshall	3

The p.m. is small.

Ref. Cat. 14h. No. 109. Innes 237. 8.8
14h 52m 55s — 41° 33′.3.

1901.27	192°.6	0″.93	0.3	4, 4	I	
1901.52	192.5	0.87	0.6	6, 6	,,	
1901.40	192.6	0.90	0.5	5, 5	I	2 n

Ref. Cat. 14h. No. 113. Cape 15. 7.1
14h 56m 24s — 71° 46′.7.

1900.48	43°.3	1″.84	...	...	L	
1900.51	43.1	1.61	...	...	,,	
1900.50	43.2	1.73	[2.0]	...	L	2 n

Ref. Cat. 14h. No. 116. π Lupi. MAG. 4.0
14h 58m 18s — 46° 39′.6.

1851.05	106°.3	1″.24	...	...	T.M.	1 n
1900.36	87.6	1.01	...	...	I	
1900.48	85.1	1.34	...	...	,,	
1900.42	86.4	1.18	[0.1]	...	I	2 n

One of the most remarkable double stars known. It was in binary motion from 1835 until 1888, in which time the angle decreased by 26°. Since 1888 there has been no change in angle and distance. The explanation of this phenomenon by the theory of gravitation seems difficult.

Washington B.D. — 21°, 4019. 9.3
14h 58m 28s — 21° 41′.5.

1900.4	320°±	3″±	0.4	...	I	1 n

Both stars have been observed on the meridian at Washington :—see 1875 Catalogue.

Ref. Cat. 14h. No. 117. Innes 85. 8.5
14h 58m 34s — 35° 32′.1.

1901.27	182°.0	1″.06	0.5	0, 0	I	
1902.53	183.4	0.78	1.2	...	,,	
1902.58	182.3	0.82	0.7	...	,,	
1902.13	182.8	0.89	0.8	0.0	I	3 n

Digitized by Google

Ref. Cat. 15h. No. 2. Harvard. MAG. 6.9—7.4
15h 0m 24s — 68° 20′.1.

1900.63	41°.1	41″.3	10.2	...	I	1 n

A 10.7 mag. star, which is itself double, is at 311°±, 55″±.

Cape 43. C.Z. 14h 3790. 8.3
15h 0m 55s — 42° 43′.3.

1902.48	182°.8	1″.75	0.2	2, 2	I	
1902.53	181.9	2.03	0.3	0, 0	,,	
1902.51	182.3	1.89	0.2	2, 2	I	2 n

The colour mean includes a previous estimate of 4, 4.
The mag. is from the C.P.D.
The Cor. DM. has 9.0, which is too faint.
The p.m. is 0″.06 towards 190°.0.
There is a 12th mag. star. S.f.

Ref. Cat. 15h. No. 3. λ Lupi. 4.4
15h 2m 6s — 44° 53′.7.

1901.27	189°.7	0″.83	0.3	2, 2	I	
1902.53	196.2	0.55	0.3	2, 2	,,	
1902.58	190.6	0.66	...	...	,,	
1902.13	192°.2	0.68	0.3	2, 2	I	3 n

The p.m. is 0″.05 towards 232°.5.
The angle is increasing by about 2°.5 a year.

Ref. Cat. 15h. No. 9. h 4735. 7.4
15h 4m 47s — 60° 0′.8.

1900.48	33°.7	7″.10	3.1	...	I	
1900.60	33.1	6.67	3.1	...	,,	
1900.54	33.4	6.89	3.1	...	I	2 n

Slight change shown.

Ref. Cat. 15h. No. 11. h 4731. 9.3
15h 5m 14s — 77° 30′.0.

1900.51	249°.6	3″.11	...	...	L	
1900.63	252.0	3.19	0.7	...	I	
1900.57	250.8	3.15	0.7	...	Cape	2 n

There are two very faint stars due N.

Ref. Cat. 15h. No. 12. Innes 238. MAG. 8.2
15h 5m 20s — 44° 38′.0.

1900.63	142°.6	3″.19	2.0	2, b	I	
1901.27	141.2	3.32	2.5	2, —	,,	
1902.38	138.2	2.71	2.5	...	,,	
1902.53	142.6	3.14	3.0	...	,,	
1901.70	141.2	3.09	2.5	2, b	I	4 n

The p.m. of the chief star is 0″.03 towards 288°.
There is an 11.5 mag. star at 310°±, 20″±.

Innes 329. Lac. 6241. 6.5
15h 5m 53s — 60° 57′.9.

1900.63	330°.5	0″.66	0.6	...	I	1 n

Innes 330. C.Z. 15h 285. 8.0
15h 6m 52s — 74° 12′.3.

1900.63	2°.1	1″.62	1.0	...	I	1 n

Innes 428. Lac. 6259. 6.1
15h 8m 32s — 60° 31′.9.

1900.63	315°.6	10″.4	5.2	...	I	
1902.31	317.6	10.7	...	...	,,	
1901.47	316.6	10.5	5.2	...	I	2 n

This was measured by accident as δ Circini, an Arequipa double star. The companion to δ Circini was afterwards looked for and seen:—270°±, 50″±, 12m.

Harvard. Bris. 5234. 7.0
15h 8m 37s — 43° 46′.6.

1901.27	38°.3	13″.5	...	2, p	I	
1901.55	38.9	13.3	2.5	2, 7	,,	
1901.41	38.6	13.4	2.5	2, 7	I	2 n

The p.m. of the chief star is very small.

Innes 331. C.Z. 15h 443. 8.0
15h 8m 41s — 68° 12′.6.

1900.30	5°.2	1″.54	1.5	...	I	
1900.63	5.7	1.51	1.0	...	,,	
1900.46	5.4	1.53	1.3	...	I	2 n

Digitized by Google

Ref. Cat. 15h. No. 17. *h* 4742. MAG. 6.9
15h 8m 50s — 75° 11′.7.

1900.48	200°.6	31″.8	5.1	...	I	
1900.51	200.3	31.8	...	...	L	
1900.50	200.5	31.8	5.1	...	Cape	2 n

Some change.

Ref. Cat. 15h. No. 19. *h* 4750. 7.3
15h 9m 20s — 47° 40′.4.

1900.63	22°.0	13″.2	2.7	2, 6	I	
1902.38	19.9	13.3	3.0	...	,,	
1901.51	21.0	13.3	2.9	2, 6	I	2 n

Some change, but probably a common p.m. of 0″·07 towards 180°. (Misprinted 0″·7 in Ref. Cat.)

Cape 44. C.P.D.—59°, 5889. 8.2
15h 10m 13s — 59° 59′.7.

1902.48	341°.2	3″.26	1.0	...	I	
1902.53	341.4	3.19	0.5	0, 0	,,	
1902·54	342.3	3.41	1.0	...	,,	
1902.52	341.6	3.29	0.8	0, 0	I	3 n

On the last night, it was noted "colours slightly contrasted."

Discovered at the Transit Circle by Mr W. H. Cox.

Ref. Cat. 15h. No. 24. Lac. 6272. 5.5
15h 10m 46s — 60° 7′.7.

A—B = Innes 370.

1900.60	119°.7	5″.49	7.6	...	I	
1902.48	118.8	4.77	...	...	,,	
1902.53	115.6	5·02	7·6	2, —	,,	
1902.54	116.0	5.42	...	...	,,	
1902.04	117.5	5.18	7.6	2, —	I	4 n

A—C = Harvard.

1900.48	243°.9	44″.4	6.6	...	I	
1900.60	244.1	44.6	6.6	...	,,	
1900.54	244.0	44.5	6.6	...	I	2 n

Innes 332. Lac. 6268. MAG. 6.6
15h 11m 32s — 67° 7′.0.

1900.60	107°.9	0″.92	2.0	...	I	
1902.53	107.2	1.21	2.0	3, —	,,	
1901.57	107.5	1.07	2.0	3, —	I	2 n

Ref. Cat. 15h. No. 27. μ Lupi. 4.4
15h 11m 34s — 47° 30′.4.

1902.38	155°.3	1″.37	0.0	...	I	
1902.53	154.9	1.62	0.0	3, 3	,,	
1902.46	155.1	1.50	0.0	3, 3	I	2 n

Innes 371. C.P.D. — 58°, 5898. 8.9
15h 14m 28s — 58° 30′.0.

1900.30	289°.4	0″.78	0.5	...	I	
1902.53	292.3	0.78	1.0	...	,,	
1901.41	290.9	0.78	0.8	...	I	2 n

Very difficult.

This pair is 11 secs. f., a little S., of Bris 5272, mag. 8.0.

Ref. Cat. 15h. No. 32. Innes 86. 9.5
15h 14m 58s — 37° 54′.3.

1901.27	262°.2	2″.11	1.0	...	I	1 n

Ref. Cat. 15h. No. 35. γ Circini. 4.4
15h 15m 25s — 58° 57′.6.

1900.36	79°.1	1″.11	0.5	...	I	
1900.41	82.0	...	...	...	L	
1900.38	80.6	1.11	0.5	...	Cape	2–1 n

Ref. Cat. 15h. No. 37. Sellors 20. 8.3
15h 15m 40s — 47° 33′.3.

1902.38	213°.9	1″.16	0·3	...	I	
1902.53	217.0	1.02	0.3	3, 3	,,	
1902.58	214.7	1.27	0.7	...	,,	
1902.50	215.2	1.15	0.4	3, 3	I	3 n

No certain change since 1895.

Large common proper motion.

There are two 14th mag. stars 50″± distant.

Digitized by Google

Ref. Cat. 15h. No. 39. Harvard. MAG. 6.0
15h 16m 48s — 67° 57′.2.

1900.48. There is an 11.5m about 50″ f. The Arequipa star, 70°±, 12″±, 14th mag., was not seen. I 1 n

The p.m. of the chief star is 0″.10 towards 142°.0.

Ref. Cat. 15h. No. 40. Innes 87. 9.2
15h 18m 48s — 38° 24′.2.

1902.31	245°.2	1″.20	0.2	3, 3	I	1 n

The following measures purporting to be of λ 236, an uncatalogued star 4mins. f. and 6′ N, should be transferred to this pair.

1897.1	247°.0	1″.49	0.4	...	See	2 n
1900.5	244.3	0.79	0.5	...	Cogshall	1

The entry Ref. Cat. 15h No. 45 is to be struck out.

Ref. Cat. 15h. No. 43. Innes 239. 7.0
15h 22m 35s — 31° 7′.8.

1900.60	362°.5	0″.29	0.5	...	I	
1902.31	353.8	0.53	0.3	0, 0	,,	
1902.33	358.9	0.43	0.5	...	,,	
1901.75	358.4	0.42	0.4	0, 0	I	3 n

Ref. Cat. 15h. No. 44. h 4771. 8.0
15h 22m 40s — 57° 45′.7.

1900.48	188°.3	5″.45	0.6	...	I	
1900.51	187.7	5.10	[0.2]	...	,,	
1900.50	188.0	5.28	0.4	...	I	2 n

Fixed.

Ref. Cat. 15h. No. 48. h 4777. 6.7
15h 24m 52s — 57° 4′.0.

1900.48	297°.9	6″.01	2.0	...	I	
1900.51	298.4	5.69	...	...	,,	
1900.50	298.2	5.85	2.0	...	I	2 n

Ref. Cat. 15h. No. 50. h 4773. MAG. 8.7
15h 25m 12s — 74° 1′.1.

1900.37	242°.1	6″.44	0.1	...	I	
1900.48	242.0	6.58	0.3	...	,,	
1900.42	242.1	6.51	0.2	...	I	2 n

Colours slightly contrasted; pr. star *y*, f. star *b*.

The change is undoubtedly due to p.m., but the meridian observations are at present insufficient to show which is the moving star.

Ref. Cat. 15h. No. 53. Innes 240. 7.2
15h 27m 17s — 64° 46′.6.

1902.31	189°.8	2″.07	3.0	4, B	I	
1902.31	187.9	2.67	...	...	,,	
1902.33	188.9	2.41	...	...	,,	
1902.36	189.7	2.44	3.0	...	,,	
1902.33	189.1	2.40	3.0	4, B	I	4 n

Perhaps the chief star is a very close double:—

1902.36	232°.5	0″.2±	...	...	I	1 n

Ref. Cat. 15h. No. 54. Innes 241. 8.0
15h 28m 27s — 64° 11′.8.

1902·30	19°.1	9″.94	4.0	...	I	1 n

The only companion seen, very difficult. No stars seen agreeing with the description given in the Ref. Cat.

Ref. Cat. 15h. No. 55. γ Lupi. 3.1
15h 28m 28s — 40° 49′.8.

1900.42	91°.7	0″.29	0.2	...	I	
1900.60	87.4	...	...	...	,,	
1900.61	91.0	0.43	0.3	...	,,	
1901.03	96.0	...	...	...	,,	
1901.66	94.1	0.74	...	...	,,	
1902.31	87.4	0.85	...	...	,,	
1902.33	88.5	0.52	...	...	,,	
1901.28	90.9	0.56	0.2	...	I	7–5 n

[contd.

Digitized by Google

The distances are probably much too great.

The observations of this star can be arranged as follows:—

					MAG.	
1835.0	94°.3	0".8 ±	but really	1".5		*h*
1837.0	93.8	0.7 ±	,,	1.5		,,
1853.1	93.4	1.03	,,	1.03		Jacob
1856.2	95.4	0.75±	,,	1.00		,,
1897.1	91.7	0.38	,,	0.38		Lowell
1901.3	90.9	0.56	,,	0.28		I

If this interpretation is approximately correct, the distance is decreasing by about 0".02 a year.

Ref. Cat. 15h. No. 56. *d* Lupi. 4.8
15h 29m 0s — 44° 37'.4.

1900.42	360°.7	2".38	...	...	I	
1900.51	357.0	2.44	...	...	,,	
1900.46	358.8	2.41	[2.9]	...	I	2 n

P.m. $\alpha = -0^s.003$, $\delta = -0''.05$.

Ref. Cat. 15h. No. 60. Innes 242. 7.5
15h 31m 14s — 31° 11'.7.

1900.61	47°.4	1".71	0.1	...	I	1 n

Ref. Cat. 15h. No. 62. ω Lupi. 4.2
15h 31m 19s — 42° 14'.3.

1900.51	25°.1	11".5	7.5	6, —	I	
1900.60	26.6	11.5	7.0	...	,,	
1900.56	25.8	11.5	7.3	6, —	I	2 n

Ref. Cat. 15h. No. 70. Innes 89. 6.6
15h 34m 29s — 39° 39'.4.

1902.33	148°.6	1".31	1.0	...	I	1 n

Ref. Cat. 15h. No. 72. Bris. 5413. 8.3
15h 34m 57s — 57° 47'.6.

A—B = Dunlop 190.

1900.47	93°.2	5".65	2.0	7, B	I	
1900.48	94.6	5.62	...	...	L	
1900.51	93.7	5.78	...	...	,,	
1900.49	93.8	5.68	2.0	7, B	Cape	3 n

contd.

A— C = New.

						MAG.
1900.48	50°.0	33".6	3.2	...	I	
1900.48	48.4	33.9	...	...	L	
1900.51	49.0	33.5	...	...	,,	
1900.49	49.1	33.7	3.2	...	Cape	3 n

Innes 403. C.Z. 15h 2416. 8.4
15h 36m 19s — 44° 23'.7.

1901.66	197°.4	1".20	0.6	4, 4	I	1 n

Mag. in C.Z. = 8.0.
,, C.P.D. = 8.8.
,, Cor. DM. = 9.3.

Ref. Cat. 15h. No. 74. *h* 4795. 7.4
15h 36m 51s — 58° 48'.3.

1900.48	220°.9	7".63	...	...	I	
1900.51	223.1	7.71	...	...	,,	
1900.50	222.0	7.67	[2.4]	...	I	2 n

Fixed.
There is an 11th mag. star at 137°±, 20"±.

Ref. Cat. 15h. No. 80. Rumker 20. 5.7
15h 38m 46s — 65° 7'.7.

1900.48	153°.1	2".09	0.3	...	I	
1900.51	153.1	2.19	...	...	,,	
1900.50	153.1	2.14	0.3	...	I	2 n

There is a 12m star N.f.
The two Arequipa stars were not seen.

Ref. Cat. 15h. No. 82. Innes 245. 7.5
15h 40m 1s — 43° 55'.9.

1900.61	328°.0	0".91	[1.5	5, 5]	I	1 n

Ref. Cat. 15h. No. 86. Innes 90. 7.3
15h 41m 55s — 25° 40'.6.

Once seen in 1902, 350°±, and once not seen. I

Digitized by Google

Innes 333. Lac. 6484. MAG. 6.7
15h 45m 58s — 77° 43′.9.

1900.48	133°.7	0″.84	0.1	...	I	1 n

Ref. Cat. 15h. No. 93. Lac. 6561. 6.8
15h 47m 28s — 50° 2′.4.

A—B = Dunlop 195.

1900.37	10°.8	11″.9	0.5	b, y	I	
1900.62	9.6	11.9	..	...	L	
1900.50	10.2	11.9	0.5	b, 2	Cape	2 n

A—C = New.

1900.37	289°.3	28″.8	3.2	...	I	
1900.62	289.9	...	...	...	L	
1900.50	289.6	28.8	3.2	...	Cape	2–1 n

Ref. Cat. 15h. No. 101. η Lupi 3.8
15h 53m 30s — 38° 6′.6.

1900.69	19°.3	14″.6	[4.0]	—, 7	I	1 n

Angle and distance perhaps very slowly decreasing. P.m. is; $\alpha = -0^s.003$, $\delta = -0''.03$.

Innes 334. C.Z. 15h 3581. 9.0
15h 53m 41s — 71° 37′.1.

1901.53	139°.8	2″.12	2.0	—, 6	I	
1903.23	141.0	2.53	1.5	2, b	„	
1902.38	140.4	2.32	1.8	?	I	2 n

The colour observations are discordant.

Ref. Cat. 15h. No. 106. ι_1 Normæ. 4.9
15h 55m 24s — 57° 29′.6.

A—B = λ 258.

1902.51	231°.8	0″.52	[0.2]	3, 3	I	1 n

This fine pair shows considerable change.

Ref. Cat. 15h. No. 107. λ 259. MAG. 7.2
15h 55m 32s — 36° 27′.7.

1902.51.	Single,	defn. perfect.			I	1 n

Ref. Cat. 15h. No. 108. Cordoba [43]. 8.0
15h 55m 47s — 37° 46′.4.

1902.33	140°.8	4″.94	0.3	...	I	
1902.36	140.0	4.55	0.4	...	„	
1902.35	140.4	4.75	0.3	...	I	2 n

Ref. Cat. 15h. No. 113. *h* 4828. 8.5
15h 57m 42s — 43° 3′.9

1902.48	92°.2	8″.27	[1.9]	...	I	1 n

The only complete measure.

Ref. Cat. 15°. No. 114. Harvard. 6.4
15h 58m 1s — 37° 35′.0.

1902.33	146°.3	40″.0	6.6	...	I	1 n

Ref. Cat. 15h. No. 115. λ 262. 9.0
15h 58m 2s — 40° 7′.6.

The chief star of this small pair has a p.m. of 0″.16 towards 255°.3. It is probably common to the pair.

Innes 373. Lac. 6655. 7.1
15h 58m 2s — 39° 9′.5.

1900.69	217°.8	8″.70	4.0	...	I	1 n

Found also at Arequipa; it is contained in a MS. list, received on 30th Oct. 1900, from Professor E. C. Pickering.

C.Z. 15h 3981, mag. 7.8, red, is 13′ N.f.

Digitized by Google

Ref. Cat. 16h. No. 2. *h* 4831. MAG. 5.8
16h 0m 42s — 36° 29′.1.

1900.42	Not seen double.				L	1 n
1900.68	358°.5	40″.5	5.5	...	I	1 n

Previously :—

1834.5	358°.6	40″±	...	...	*h*	3 n

Ref. Cat. 16h No. 4. β 949. 6.5
16h 2m 59s — 9° 49′.9.

1900.42	Not seen double.				L	1 n

Ref. Cat. 16h. No. 6.

This entry is to be struck out. The Arequipa star is identical with Ref. Cat. 16h No. 5.

Ref. Cat. 16h. No. 7. λ 266. 7.2
16h 3m 29s — 35° 22′.6.

1902.51	Single, good definition.				I	1 n

Ref. Cat. 16h. No. 8. Cordoba [44]. 8.3
16h 5m 21s — 56° 9′.4.

1901.53	131°.9	2″.80	2.0	1, b	I	
1901.59	131.2	3.57	2.0	2, b	„	
1901.56	131.6	3.18	2.0	1½, b	I	2 n

Ref. Cat. 16h. No. 15. δ Triang. Austr. 4.0
16h 6m 20s — 63° 25′.8.

This star appears in Mr Russell's list as a 0″.3 double, the companion being faint. It could not be seen here on 1900.41, I, and 1900.50, L. If for 0″.3, we read 30″ ±, the magnitude and position will agree pretty closely with a star noted by Professor W. H. Pickering in 1891 and seen here in 1902.

Ref. Cat. 16h. No. 17. θ Normæ. 5.4
16h 8m 0s — 47° 7′.0.

1900.50	Nil.				L	1 n
1900.68	Nil, moon.				I	1 n

The Arequipa companion is faint and distant.

Innes 335. C.Z. 16h 443. MAG. 8.5
16h 8m 50s — 71° 12′.1.

1900.41	203°.6	3″.53	2.0	...	I	
1900.51	205.7	3.87	...	...	„	
1900.46	204.6	3.70	2.0	...	I	2 n

Some faint stars 50″ ± distant.

Ref. Cat. 16h. No. 18. Harvard. 5.4
16h 8m 53s — 53° 33′.6.

1900.68. Two stars seen as in Ref. Cat., but no star seen in Arequipa position, viz., 290° ±, 30″ ±.
Many faint stars around, one 13.5 mag. at about 240° ±. I 1 n

Ref. Cat. 16h. No. 19. λ 269. 6.4
16h 9m 36s — 52° 50′.1.

1902.51	A B Single.				I	1 n

Ref. Cat. 16h. No. 21. Innes 15. 7.0
16h 10m 42s — 64° 24′.1.

1902.36	315°.9	1″.12	2.5	...	I	
1902.43	314.6	0.90	2.5	...	„	
1902.40	315.2	1.01	2.5	...	I	2 n

Colours slightly contrasted. Fixed.

Ref. Cat. 16h. No. 23. λ Normæ. 5.6
16h 12m 20s — 42° 25′.8.

1902.51	162°.5	0″.42	1.0	2, 2	I	1 n

Some change, Professor See has 152°.0 on 1897.2. A fine pair. Common p.m. of 0″.03 towards 225°.

Ref. Cat. 16h. No. 24. γ_2 Normæ. 4.1
16h 12m 21s — 49° 54′.6.

1900.68	0°.2	41″.5	5.8	3, —	I	
1900.69	1.5	41.8	5.3	4, —	„	
1900.68	0.9	41.7	5.5	3½, —	I	2 n

The change in this pair is probably due to the p.m. of the chief star. The above are the only complete measures.

Digitized by Google

Ref. Cat. 16h. No. 25. λ 272. MAG. 6.8
16h 12m 45s — 35° 14′.8.

1902.51	278°.0	0″.40	0.0	4, 4	I	1 n

No certain change in this fine pair.

Ref. Cat. 16h. No. 26. λ . . . 7.3
16h 13m 26s — 39° 15′.4.

1902.51	Single.				I	1 n

Ref. Cat. 16h. No. 27. λ 273. 7.5
16h 13m 28s — 39° 23′.3.

1902·15	Single.				I	1 n

Ref. Cat. 16h. No. 28. Innes 91. 6.3
16h 13m 47s — 39° 11′.3.

1902.48	295°.6	10″.6	2.8	...	I	
1902.51	295.3	10.7	3.0	...	„	
1902.50	295.4	10.7	2.9	...	I	2 n

Ref. Cat. 16h. No. 38. Innes 93. 7.7
16h 19m 27s — 47° 48′.9.

1902·51	287°.6	0″.95	2·5	...	I	1 n

Common proper motion of 0″·09 towards 257°·5.

Ref. Cat. 16h. No. 39. Innes 94. 7.7
16h 19m 31s — 29° 41′.5.

1902.51	205°.8	0″.68	1·5	4, —	I	1 n

The p.m. is 0″.10 towards 23°·5, but the observations on which it is founded are discordant.

Ref. Cat. 16h. No. 46. *h* 4854. 6.6
16h 21m 25s — 57° 32′.0.

1900.41	Single, definition not good.				I	1 n

Innes 336. Lac. 6831. 7.4
16h 22m 51s — 62° 4′.3.

1900.41	197°.1	1″.16	0.3	...	I	
1900.69	193.9	1.16	0.2	...	„	
1900.55	195.5	1.16	0.2	...	I	2 n

Ref. Cat. 16h. No. 47. Antares. MAG. 1.1
16h 23m 16s — 26° 12′.6.

1850.20	275°.9	...	...	...	T.M.
1850.21	274.5	...	5.0	7, B	„
1850.26	275.4	3.52	...	6, B	„
1850.35	271.4	3.51	...	...	„
1850.36	274.1	...	...	...	„
1850.37	273.6	3.57	...	...	„
1851.37	274.3	3.60	...	...	„
1852.44	273.5	3.51	...	...	„
1852.67	274.2	3.69	...	...	„
1855.35	273.7	3.60	8.5	7, B	„
1856.39	273.8	3.28	...	...	„
1856.44	273.5	3.45	...	...	„
1860.36	272.6	2.89	...	...	„
1860.36	274.7	...	...	...	„

The above are all the Cape observations found, but in the *Monthly Notices of the R.A.S.*, vol. xvi., p. 222, the following mean results, which do not seem to have been derived from the above observations, are found:—

1849.7	276°.4	3″.70	...	...	T.M.	2 n
1850.3	274.8	3.53	...	...	„	3–2
1851.9	274.1	3.60	...	...	„	2
1856.1	273.7	3.44	...	...	„	3

Colours:—A = Orange red.
B = Deep ultramarine.

The following measure is taken from the *Sidereal Messenger*, vol. i., No. 4.

1846.6	270°.0	2″.52	...	7, B	Mitchel –n

In the same Journal, No. 7, is an account of the supposed discovery that the chief star is itself a 1″.8 pair.

An account of the discovery of the small companion by Burg will be found in the *Berliner Jahrbuch* for 1822, or the *Mems. R.A.S.*, vol. iv., p. 646.

In the Ref. Cat., for Dawes 11–9 n, read Dawes 2–1 n.

Ref. Cat. 16h. No. 50. Russell 281. . . .
16h 26m± — 61° 40′±

1899.4	Not found	I	2 n

There are several minute pairs under 3″ within 1°.

Digitized by Google

Innes 404. C.P.D. — 52°, 10015. MAG. 9.1
16h 27m 13s — 52° 27′.0.

1902.36	121°.8	4″.35	0.5	...	I	
1902.48	122.2	4.01	0.5	...	,,	
1902.42	122.0	4.18	0.5	...	I	2 n

Innes 374. Lac. 6874. 8.0
16h 28m 24s — 51° 1′.9.

A—B.

1900.71	300°.3	2″.59	3.0	...	I	1 n

A—C.

1900.71	357°.7	22″.9	5.0	...	I	1 n

There is a 14 mag. star at 130°±, 30″±.

Ref. Cat. 16h. No. 53. β Apodis. 4.2
16h 28m 47s — 77° 18′.5.

1900.41	71°.9	51″.4	...	...	I	
1900.51	72.8	50.8	...	...	,,	
1900.46	72.3	51.1	[7.8]	...	I	2 n

The p.m. of the chief star nearly accounts for the change shown.

The above are the only complete measures.

Harvard. Lac. 6847. 6.7
16h 29m 12s — 72° 5′.9.

1901.59	Not seen, bad definition.				I	
1902.51	245°.7	2″.05	3.5	4, B	,,	1 n

The p.m. is very small.

Innes 405. C.Z. 16h 2120. 8.9
16h 32m 15s — 46° 27′.0.

1902.51	318°.0	2″.60	0.1	0, 0	I	1 n

There is an uncatalogued star 9.5 mag. 2′ N.

Ref. Cat. 16h. No. 61. Lac. 6912. MAG. 5.6
16h 33m 51s — 48° 34′.0.

A—D = *h* 4876.

1900.69	162°.0	13″.0	4·4	...	I	1 n

A—E = *h* 4876.

1900.51	15°.2	13″.6	4·4	...	I	
1900.69	14·4	13.1	4.4	...	,,	
1900.60	14.8	13.4	4.4	...	I	2 n

A—F = Innes 96.

1900.69	194°.5	21″.1	5.4	...	I	1 n

Ref. Cat. 16h. No. 62. Innes 97. 8.5
16h 33m 56s — 48° 33′.5.

1902.36 and ·51	Single.				I	2 n

To be rejected as single.

Ref. Cat. 16h. No. 63. *h* 4874. 7.5
16h 34m 5s — 60° 43′.9.

A—B.

1900.37	296°.9	3″.38	0.0	b, y	I	
1900.50	298.7	3.22	...	...	L	
1900.43	297.8	3.30	0.0	b, y	Cape	2 n

B—C = New [I].

1900.50	325°.2	14″.8	[3.8]	...	L	1 n

Ref. Cat. 16h. No. 65. Innes 39. 8.0
16h 35m 16s — 32° 37′.6.

1900.69. The only companion seen is a long way S.f. I 1 n

Ref. Cat. 16h. No. 67. Harvard. 5.3
16h 36m 37s — 66° 55′.3.

The Arequipa companion is 12m at 180°±, 30″±.

The stars seen here are:—

1900.41 104°± 20″± 12m
123 ± 25 ± 11·5

These two stars might be called a wide double star near a bright star.

The p.m. of the chief star is 0″.02 towards 260°.0.

Digitized by Google

Ref. Cat. 16h. No. 68. Harvard. MAG. 6.0
16h 36m 45s — 52° 57′.8.

Arequipa companion seen:—

1900.51	N.f. 40″±, 12m.				I	1 n

Ref. Cat. 16h. No. 69. Harvard. 6.3
16h 37m 2s. — 37° 57′.9.

Arequipa companion seen:—

1900.51	160°±	50″±	6.1	...	I	1 n

Harvard. Lac. 6968. 7.7
16h 40m 15s. — 45° 16′.7.

1902.36	358°.7	0″.59	0.5	...	I	
1902.51	360.2	0.55	0.8	...	„	
1902.44	359.4	0.57	0.6	...	I	2 n

This fine pair was discovered by Professor Bailey at Arequipa.
The p.m. is 0″.02 towards 270°.0.

***h* 4865. C.P.D. — 83°, 611. 8.9**
16h 41m 7s — 83° 49′.8.

1900.51	312°.9	4″.28	[1.0]	...	I	1 n

Ref. Cat. 16h. No. 72. Innes 99. 7.5
16h 42m 22s — 43° 46′.0.

1900.69	75°.2	1″.11	0.3	...	I	1 n

The p.m. is 0″.03 towards 251°.0.

Innes 375. C.P.D. — 40°, 7567. 9.8
16h 46m 50s — 40° 53′.9.

1900.69	161°.5	4″.04	2.5	...	I	1 n

Ref. Cat. 16h. No. 80. Innes 100. 6.9
16h 47m 39s — 73° 15′.8.

1901.53	180°.1	haze	1.5	3, 3	I	
1902.36	181.1	0″.75	2.0	...	„	
1902.51	179.9	0.56	2.0	...	„	
1902.13	180.4	0.66	1.8	3, 3	I	3–2 n

The p.m. is very small.

Ref. Cat. 16h. No. 81. Innes 101. MAG. 9.0
16h 47m 55s — 40° 54′.1.

1900.69	352°.5	1″.34	1.2	...	I	
1902.36	354.9	1.42	...	...	„	
1901.52	353.7	1.38	1.2	...	I	2 n

Colours slightly contrasted.
There is a faint pair 65 secs. pr.

Ref. Cat. 16h. No. 92. Harvard. 5.8
16h 51m 59s — 54° 26′.5.

1900.68	71°.2	20″.1	6.0	...	I	1 n

Difficult.

Ref. Cat. 16h. No. 96. λ 316. 6.1
16h 52m 54s — 48° 29′.6.

1902.46	180°.6	0″.66	...	...	I	
1902.51	190.7	0.61	1.0	5, 5	„	
1902.48	185.6	0.63	1.0	5, 5	I	2 n

Angles discordant, but no error of reduction found.
The p.m. is:—

$$\alpha = -0^{s}.004. \quad \delta = -0''.10.$$

Ref. Cat. 16h. No. 99. ϵ_2 Aræ. 5.4
16h 55m 9s — 53° 5′.2.

1900.68.	Nil, moon.				I	1 n

The Arequipa companion 13m is 20°±, 25″±. It is probably too faint to be easily seen so near a bright star.

Ref. Cat. 16h. No. 100. Cordoba [48]. 7.0
16h 55m 11s — 50° 0′.8.

1902.51	234°.6	8″.00	[0.7]	...	I	1 n

Ref. Cat. 16h. No. 103. *h* 4909. 8.1
16h 56m 13s — 50° 56′.3.

1900.37	158°.8	11″.2	[1.2]	...	I	1 n

Digitized by Google

Ref. Cat. 16h. No. 104. *h* 4904. MAG. 7.4
16h 56m 55s — 75° 14′.5.

1901.59	187°.0	7″.07	2.0	2, b	I	1 n

Both stars observed on the Meridian by Gilliss. Some faint stars near.

Ref. Cat. 16h. No. 106. *k* Scorpii. MAG. 5.0
16h 58m 15s — 33° 58′.9.

The Arequipa companion is 14m; it was not seen here on 1900.51. I 1 n

Ref. Cat. 16h. No. 108. Lac. 7123. MAG. 6.1
16h 59m 35s — 37° 5′.4.

A—B = λ . . . .

1900.68. Seen 10.5 mag. I 1 n

A—C = Harvard.

1900.68	187°.2	43″.3	6.5	...	I	1 n

K

Digitized by Google

Innes 406. C.Z. 16h 4210. MAG. 8.7
17h 0m 50s. — 41° 48′.8.

1902.36	95°.9	1″.79	0.0	...	I	
1902.46	96.6	2.02	...	...	,,	
1902.41	96.2	1.90	0.0	...	I	2 n

Innes 407. Lac. 7131. 7.1
17h 1m 4s — 41° 28′.8.

1902.36	184°.4	0″.68	0.3	2, 2	I	
1902.46	188 o	0.85	1.0	[5, 5]	,,	
1902.41	186.2	0.76	0.6	3, 3	I	2 n

Ref. Cat. 17h. No. 5. Dunlop 214. 5.9
17h 3m 5s — 67° 4′.1.

1900.37	350°.8	28″.8	...	...	I	
1900.41	350.6	28.5	...	...	,,	
1900.39	350.7	28.7	[2.9]	[3, B]	I	2 n

Ref. Cat. 17h. No. 7. Innes 246. 7.5
17h 3m 53s — 27° 38′.8.

1902.36	37°.1	1″.39	3.5	...	I	
1902.51	29.7	1.23	3.0	2, —	,,	
1902.60	33.7	1.23	3.0	...	,,	
1902.49	33.5	1.29	3.2	2, —	I	3 n

Ref. Cat. 17h. No. 8. *h* 4920. 6.9
17h 4m 20s — 58° 28′.2.

1900.63	328°.6	2″.90	[1.8]	...	L	1 n

No certain change.

Cape 34. Moesta 1541. 8.7
17h 4m 46s — 41° 52′.3.

1902.46	33°.1	7″.17	...	...	I	
1902.60	33.1	7.62	3.7	...	,,	
1902.53	33.1	7.39	3.7	...	I	2 n

Found on a *Carte du Ciel* plate by Mr Woodgate.

Ref. Cat. 17h. No. 16. Lac. 7171. MAG. 6.4
17h 7m 32s — 39° 38′.9.

A—B = λ 321.

1901.74	1902.60	Single.		I	2 n

A—C = *h* 4926.

1900.63	335°.6	14″.3	...	...	L	
1902.60	335.2	14.3	...	...	I	
1901.62	335.4	14.3	[3.0]	...	Cape	2 n

h has 333°.5, See has 331°.8. On the occasion of my measure, 331°.8 was tried, but it was manifestly impossible.

A—D = *h* 4926.

1900.63	210°.2	16″.9	...	...	L	
1902.60	209.8	17.1	3.0	...	I	
1901.62	210.0	17.0	3.0	...	Cape	2 n

Ref. Cat. 17h. No. 18. Innes 229. 8.5
17h 8m 23s — 39° 32′.0.

1902.46	238°.0	4″.49	...	6, B	I	
1902.60	236.8	4.38	...	...	,,	
1902.53	237.4	4.44	[1.2]	6, B	I	2 n

Ref. Cat. 17h. No. 20. Innes 104. 6.7
17h 9m 7s — 69° 55′.8.

1900.72	140°.4	1″.65	2.5	...	I	
1902.51	132.9	2.10	...	3, B	,,	
1901.62	136.6	1.88	2.5	3, B	I	2 n

The p m. is very small.

Innes 408. Lac. 7177. 7.1
17h 9m 11s — 42° 13′.5.

1902.36	167°.8	1″.95	2.0	...	I	
1902.40	168.0	1.72	...	3, b	,,	
1902.38	167.9	1.83	2.0	3, b	I	2 n

The p.m. is:—

$\alpha = -0^s.001$, $\delta = -0''.02$.

Digitized by Google

Ref. Cat. 17h. No. 22. λ 322. MAG. 6.8
17h 9m 16s — 33° 37′.3.

1902.40	351°.7	″...	[0.1]	...	I	1 n

Duplicity doubtful, still the star does not look single, the separate settings were fairly accordant.

Ref. Cat. 17h. No. 31. Lac. 7194. 5.6
17h 11m 28s — 46° 31′.9.

A—B = Brisbane.

1900.58	72°.8	″2.24	...	...	I	
1900.59	68.7	2.40	...	...	,,	
1900.60	70.8	1.96	...	...	,,	
1900.61	71.7	2.01	...	...	,,	
1900.62	66.5	2.31	...	...	L	
1900.69	69.3	2.06	...	...	I	
1900.71	64.6	2.09	...	...	,,	
1900.71	69.7	2.35	...	...	Johns	
1900.71	68.6	2.26	...	...	I	
1900.72	70.9	1.97	...	...	,,	
1900.65	69.4	2.17	...	...	Cape	10 n
1901.59	76.1	2.31	...	...	I	
1901.64	76.3	2.21	...	...	,,	
1901.77	79.6	2.01	...	...	,,	
1901.67	77.3	2.18	...	...	I	3 n
1902.36	79.1	2.35	poor	...	I	
1902.40	79.3	2.08	3.5	4, B	,,	
1902.38	79.2	2.21	3.5	4, B	I	2 n

Common p.m. of o″.93 towards 77°.6.

A—C = Harvard.

1900.71	278°.1	″42.0	7.5	...	I	
1900.72	279.9	41.6	6.2	...	,,	
1900.71	279.0	41.8	6.8	...	I	2 n

A—D = New.

1900.71	30°±	47″±	8.5	...	I	1 n

Ref. Cat. 17h. No. 33. h 4931. 7.5
17h 11m 48s — 59° 20′.1.

1900.60	257°.0	″1.20	0.2	...	I	
1900.71	257.8	1.31	0.2	...	,,	
1900.66	257.4	1.26	0.2	...	I	2 n

Fixed.

Innes 409. C.Z. 17h. 706. MAG. 8.8
17h 12m 3s — 39° 39′.7.

1902.33	37°.2	″5.12	2.0	...	I	1 n

The N. star of a triangle.

Ref. Cat. 17h. No. 35. Lac. 7215. 5.9
17h 12m 8s — 34° 52′.7.

A—B = Melbourne [4] = β 416

1900.50	301°.4	″2.06	...	...	L	
1900.51	297.5	2.33	...	...	,,	
1900.51	298.5	2.16	...	...	,,	
1900.61	298.7	2.07	...	...	,,	
1900.53	299.0	2.16	...	...	L	4 n
1902.33	291.8	2.37	1.0	5, 5	I	
1902.36	292.7	2.28	...	...	,,	
1902.40	291.8	2.21	1.3	5, 5	,,	
1902.36	292.1	2.29	1.2	5, 5	I	3 n

A—C = h 4935.

1900.50	131°.0	″...	...	...	L	
1900.51	131.3	29.8	...	...	,,	
1900.51	130.9	30.1	...	...	,,	
1900.61	130.5	29.8	...	...	,,	
1902.33	131.1	29.4	...	...	I	
1902.40	130.9	29.7	...	...	,,	
1901.14	131.0	29.8	[3.9]	..	Cape	6–5 n

C—D = λ.

1902.33	48°.7	″35.5	D = 13m.5	I	1 n

This measure transferred to A gives A—D =

1902.33	84°.4	″49.8
1897.39	86.1	55.4

Prof. See's measure is

This change is entirely due to the common proper motion of the system A—B—C, hence D is not connected with it.

Harvard. Lac. 7211. 6.9
17h 12m 10s — 44° 6′.9.

1901.64	12°.6	″0.54	0.1	...	I	
1901.65	10.9	0.48	...	...	,,	
1901.64	11.7	0.51	0.1	...	I	2 n

Found by Mr Clymer at Arequipa in 1899, 350°±, o″.6±, 0.0.

The p.m. of this fine system is very small.

Digitized by Google

Innes 410. C.Z. 17h. 802. MAG. 8.3
17h 13m 40s — 42° 33′.3.

1902.33	285°.0	2″.76	1.7	3, b	I	
1902.46	284.9	2.86	...	...	,,	
1902.40	285.0	2.81	1.7	3, b	I	2 n

The p.m. is

$$\alpha = +0^{s}.001, \quad \delta = -0''.09.$$

Ref. Cat. 17h. No. 38. Is Piazzi 17h. 41.

Ref. Cat. 17h. No. 39. Harvard. 6.2
17h 14m 18s — 57° 54′.6.

1900.60	187°.0	1″.84	4.6	2, —	I	
1900.72	187.9	2.36	...	...	,,	
1900.66	187.4	2.10	4.6	2, —	I	2 n

There are a 13th mag. star 270°±, an 11th mag. star S.f. (latter also seen at Arequipa), and other faint stars near.

Ref. Cat. 17h. No. 42. ι Aræ. 5.5
17h 15m 46s — 47° 22′.2.

1900.67	62°.0	42″.8	5.3	...	I	1 n

The companion found at Arequipa was not seen, although it is only of the 9th mag. 15″± distant.

Innes 385. Bris. 6042. 7.5
17h 15m 58s — 59° 7′.1.

A—B.

1900.72	184°.3	0″.51	0.3	3, 3	I	1 n
1902.51	167.7	0.44	1.5	...	I	1 n

Some of the change shown is probably real.

A—C.

1900.72	212°.6	18″.5	C = 13m.0	I	
1902.51	210.2	17.0	...	,,	
1901.61	211.4	17.8	[5.1]	...	I	2 n

A 14th mag. star is at 113°±, 35″±.

Ref. Cat. 17h. No. 44. γ Aræ. MAG. 3.5
17h 16m 59s — 56° 17′.0.

1902.60	329°.0	18″.1	7.1	...	I	1 n

There is a 12.5 mag. star at twice the distance.

Ref. Cat. 17h. No. 48. κ Aræ. 5.3
17h 18m 12s — 50° 32′.5.

A—B

1900.67	159°.4	76″.1	4.4	...	I	1 n

B—C.

1900.67	274°.7	4″.69	1.0	...	I	1 n

The two Arequipa companions at 25″ and 30″ were not observed.

Ref. Cat. 17h. No. 52. *h* 4949. 5.4
17h 19m 29s — 45° 45′.2.

1902.40	261°.7	2″.49	1.3	2, 2	I	
1902.46	262.6	2.73	0.6	...	,,	
1902.43	262.1	2.61	1.0	2, 2	I	2 n

Ref. Cat. 17h. No. 53. Harvard. 6.0
17h 20m 0s — 52° 12′.5.

1900.67	Many faint stars about, but none seen within 30″–40″.	I	1 n

Ref. Cat. 17h. No. 54. Harvard. 6.0
17h 20m 22s — 55° 5′.0.

A—B.

1900.67	Not seen.	I	1 n

A—C.

1900.67	151°.1	37″.0	5.5	...	I	1 n

Cape 29. C.P.D. — 42°, 7799. 8.4
17h 23m 28s — 42° 59′.0.

1900.67	339°.7	4″.88	1.0	...	I	
1902.46	340.2	4.44	...	...	,,	
1901.56	340.0	4.66	1.0	...	I	2 n

Found by Mr W. H. Cox at the Transit Circle.
The mag. in the Cor. DM. is 8.9.
There is a similar but fainter pair N.pr.

Digitized by Google

Ref. Cat. 17h. No. 61. λ 330. MAG. 8.7
17h 23m 48s — 30° 10′.7.

1901.7	Single; a faint *comes* is 30″± pr.				I	1 n

The measures of this star by See and Cogshall should be transferred to a star 1m 23s f., and 2′.2 S. = Ref. Cat. 17h. No. 68 = Ö.A. 16,867, both components of which are yellow.

Innes 376. C.P.D. — 65°, 3457. 9.0
17h 23m 54s — 65° 57′.2.

1901.64	37°.6	2″.18	1.0	...	I	1 n

Closely S.pr., Brisbane 6087, mag. 8.5.

Ref. Cat. 17h. No. 64. Innes 40. 6.3
17h 24m 25s — 45° 57′.6.

1900.60	210°.4	17″.5	4.0	...	I	
1900.67	210.8	18.0	4.0	—, b	,,	
1900.63	210.6	17.8	4.0	—, b	I	2 n

The p.m. of the chief star is very small.

Ref. Cat. 17h. No. 66. Washburn 136. 7.3
17h 24m 40s — 40° 57′.8.

1902.46	109°.7	0″.95	[0.4]	...	I	1 n

Ref. Cat. 17h. No. 70.

Prof. See's identification of this pair is erroneous. It is correct as printed.

Ref. Cat. 17h. No. 71. Harvard. 6.3
17h 27m 14s — 53° 17′.0.

1900.67	Arequipa companions not seen.				I	1 n

The p.m. of the chief star is 0″.06 towards 228°.3.

Ref. Cat. 17h. No. 74. Innes 106. 7.7
17h 29m 36s — 49° 10′.8.

1900.60	40°.8	0″.69	0.8	...	I	
1900.72	37.2	1.03	0.7	...	,,	
1900.66	39.0	0.86	0.8	...	I	2 n

The p.m. is very small, viz. :—

$\alpha = -0^s.001$, $\delta = -0''.02$.

Ref. Cat. 17h. No. 76. Innes 247. MAG. 7.1
17h 31m 1s — 37° 47′.7.

1902.33	112°.5	1″.29	2.5	...	I	
1902.40	113.7	1.15	...	3, b	,,	
1902.55	112.3	1.26	...	...	,,	
1902.43	112.8	1.23	2.5	3, b	I	3 n

Harvard. Lac. 7317. 6.6
17h 32m 18s — 72° 10′.3.

1899	155°±	0″.9±	0.4	...	Clymer	2 n

The discovery of this fine pair was kindly communicated by Prof. E. C. Pickering.

The p.m. is 0″.16 towards 343°, but the observations are not accordant.

Ref. Cat. 17h. No. 78. Innes 107. 8.9
17h 33m 0s — 32° 17′.5.

1902.33	137°.9	1″.60	0.3	...	I	1 n

Innes 386. U.A. 1 Pavonis. 6.6
17h 34m 41s — 57° 40′.4.

1900.72	327°.3	15″.0	7.0	8, —	I	1 n

A remarkable object; the mag. of the chief star is 8.8 in the C.P.D.

Harvard. Lac. 7370. 6.9
17h 35m 1s — 56° 58′.4.

1902.40	108°.9	1″.14	2.0	...	I	1 n

Found at Arequipa by Mr Clymer, and kindly communicated by Professor E. C. Pickering.

Harvard. Lac. 7387. 6.8
17h 38m 10s — 59° 57′.1.

Suspected by Mr Clymer in 1899.

Examined on 1902.40 :—Looks single, certainly under 0″.4, if the components are sensibly equal in magnitude.

I 1 n

Digitized by Google

Ref. Cat. 17h. No. 89. Innes 248. MAG. 8.0
17h 38m 13s — 46° 52′.5.

A—B.

1900.67	128°.8	1″.74	1.3	...	I	
1900.71	126.7	1.80	...	...	„	
1900.69	127.8	1.77	1.3	...	I	2 n

A—C = New.

1900.7	13°±	30″±	5.0	...	I	1 n

Ref. Cat. 17h. [No. 91]. λ 338. ι_1 Scorpii. 3.1
17h 40m 35s — 40° 5′.1.

1900.48	91°.9	35″.8	8.9	...	I (¼ weight)	
1900.67	97.7	37.0	8.4	...	„	
1900.63	96.3	36.9	8.6	...	I	2 n

Ref. Cat. 17h. No. 91. Innes 108. 9.3
17h 40m 59s — 40° 6′.1.

1900.48	254°.3	4″.50	1.0	...	I	
1900.67	258.0	5.29	1.0	...	„	
1900.57	256.2	4.90	1.0	...	I	2 n

Cape 24. C.Z. 17h. 2676. 8.6
17h 41m 16s — 44° 59′.6.

1902.46	329°.6	3″.99	...	...	I	
1902.51	330.4	3.90	...	...	„	
1902.48	330.0	3.94	[1.0]	...	I	2 n

Ref. Cat. 17h. No. 92. *h* 4978. 5.9
17h 42m 20s — 53° 34′.7.

1902.60	268°.9	12″.0	3.0	2, b	I	1 n

Ref. Cat. 17h. No. 95. *h* 4981. 9.0
C.Z. 17h. 2739.
17h 42m 24s — 50° 15′.3.

1902.55	18°.2	2″.24	0.2	0, o	I	
1902.60	17.6	2.27	0.2	...	„	
1902.57	17.9	2.25	0.2	0, o	I	2 n

The identification in the Ref. Cat. is erroneous. Lac. 7437, mag. 7.5, is 46secs. f.

Ref. Cat. 17h. No. 96. ι_2 Scorpii. MAG. 4.9
17h 43m 11s — 40° 3′.5.

1900.48	36°.9	33″.1	6.1	...	I	
1900.67	36.8	32.5	...	...	„	
1900 58	36.8	32.8	6.1	...	I	2 n

The p.m. of the chief star is 0″.03 towards 270°.0.

Harvard. Lac. 7459. 7.7
17h 44m 16s — 33° 40′.5.

1900.67	193°.5	28″.4	12.0m	5, —	I	
1900.71	194.9	27.1	12.0	4, —	„	
1900.69	194.2	27.8	12.0	4, —	I	2 n

The chief star may be variable :—

U.A. = 6.9
C.P.D. = 8.8
W.Z. = 9.0

There are many faint stars at a little greater distance.

Ref. Cat. 17h. No. 101. λ 342. 5.4
17h 46m 43s — 34° 52′.2.

1901	Not seen double with the 6.9-in. refractor.	
	I	1 n

Ref. Cat. 17h. No. 105. *h* 4992. 8.0
17h 48m 52s — 57° 38′.6.

1900.67	14°.3	4″.15	0.5	—.3	I	
1900.71	13.5	4.37	0.6	...	„	
1900.69	13.9	4.26	0.6	—, 3	I	2 n

The angle is increasing, the distance decreasing, both slowly.

Ref. Cat. 17h. No. 108. Innes 109. 9.3
17h 49m 24s — 28° 3′.6.

1900.54	242°.5	5″.60	2.0	...	I	1 n

Ref. Cat. 17h. No. 109. Cordoba [50]. 7.3
17h 49m 52s — 39° 55′.0.

1900.71	126°.5	3″.43	1.7	6, BB	I	1 n

Remarkable object.

Digitized by Google

Ref. Cat. 17h. No. 112. Innes 110. MAG. 7.5
17h 51m 52s — 47° 45′.8.

1902.33	127°.6	1″.61	2.0	3, B	I	
1902.40	125.7	1.48	...	3, B	,,	
1902.37	126.6	1.54	2.0	3, B	I	2 n

The p.m. is:—

$$\alpha = -0^s.008, \quad \delta = -0''.03.$$

Ref. Cat. 17h. No. 116. Innes 230. 8.6
17h 53m 41s — 37° 41′.6.

1900.54	140°.3	7″.51	...	...	I	
1900.71	140.3	8.17	1.5	...	,,	
1900.62	140.3	7.84	1.5	...	I	2 n

Ref. Cat. 17h. No. 122. Harvard. 5.7
17h 57m 16s — 75° 53′.5.

1902.40	231°.0	25″.9	7.4	5, —	I	1 n

The p.m. of the chief star is 0″.26 towards 184°.0.

Ref. Cat. 17h. No. 125. Harvard. MAG. 6.2
17h 58m 6s — 35° 54′.2.

1900.54	289°.7	12″.5	5.1	...	I	1 n

Ref. Cat. 17h. No. 129. *h* 5014. 5.2
17h 59m 36s — 43° 25′.8.

1900.63	240°.7	1″.61	...	...	L	
1901.77	242.3	1.59	0.1	...	I	
1901.20	241.5	1.60	0.1	...	Cape	2 n

Ref. Cat. 17h. No. 130. Harvard. 5.9
17h 59m 52s — 73° 40′.7.

1901.61	231°.8	2″.44	3.0	2, 4	I	
1901.66	232.4	2.73	...	...	,,	
1901.64	232.1	2.58	3.0	2, 4	I	2 n

Common proper motion of 0″.231 towards 195° 3. It will be remarked that this p.m. is identical, within the errors of observation, with that of the star 2m 36s pr. and 2° 13′ S.

Digitized by Google

Ref. Cat. 18h. No. 2. Harvard. MAG. 6.5
18h 1m 8s — 59° 3′.2.

1900.42	The Arequipa star was not seen. There is a 12 mag. star 40″± S.pr.				I	1 n

Ref. Cat. 18h. No. 5. h 5021. 7.7
Lac. 7566.
18h 3m 34s — 56° 26′.0.

1900.42	324°.0	5″.24	3.8	...	I	
1900.59	329.1	...	3.8	...	„	
1900.50	326.6	5.24	3.8	...	I	2–1 n

Wrongly identified by *h*.
Lac. 7564, mag. 7.0, is close by, N.pr.

Ref. Cat. 18h. No. 6. β 245. 5.6
18h 3m 39s — 30° 44′.6.

1900.62	354°.2	3″.91	...	...	L	
1900.70	352.5	3.89	...	...	„	
1900.66	353.3	3.90	[2.1]	...	L	2 n

Fixed.

Ref. Cat. 18h. No. 7. h 5023. 8.0
18h 3m 47s — 40° 26′.9.

1900.62	277°.3	...	...	...	L	
1900.62	276.2	9.14	...	...	„	
1900.62	276.8	9.14	[0.3]	...	L	2–1 n

Fixed.

Harvard. Lac. 7561. 6.4
18h 4m 39s — 63° 42′.6.

1901.66	No companion seen.				I	1 n

Prof. Bailey has 1899, 182°±, 19″± companion = 13.2 mag., 2 n.
The chief star is orange coloured = 5; mag. in C.P.D. = 8.0.
S.f. R Pavonis.

Harvard. Lac. 7585. MAG. 6.8
18h 5m 6s — 50° 34′.7.

1901.66	160°.8	2″.28	4.0	...	I	1 n

Discovered by Prof. Bailey at Arequipa, and communicated by Prof. E. C. Pickering.
The p.m. is :—

$$\alpha = -0^s.005, \quad \delta = -0''.08.$$

Ref. Cat. 18h. No. 16. h 5029. 7.2
18h 6m 28s — 57° 52′.6.

1901.66	109°.9	2″.44	0.2	2, b	I	
1901.77	109.9	2.35	0.3	...	„	
1901.72	109.9	2.40	0.2	2, b	I	2 n

Angle decreasing.
There is a faint star near.

Ref. Cat. 18h. No. 17. h 5032. 7.2
18h 6m 36s — 43° 13′.7.

1900.48	Not seen double.				I	
1900.61	Single, neighbouring stars also examined.				„	
1900.55	Single.				I	2 n

Ref. Cat. 18h. No. 18. h 5031. 8.0
18h 7m 6s — 47° 23′.7.

1901.65	82°.8	25″.8	1.5	...	I	
1901.77	82.8	25.5	2.0	...	„	
1901.71	82.8	25.7	1.7	...	I	2 n

1901.77 A double, companion S.pr. ?

Innes 429. Lac. 7604. 7.7
18h 7m 12s — 50° 20′.0.

1902.51	144°.9	0″.34	0.4	2, 2	I	1 n

Found with the 6.9-inch refractor.
The p.m. is 0″.09 towards 257°.5.

Digitized by Google

Harvard. Lac. 7574. MAG. 6.3
18h 7m 19s — 68° 15′.6.

1901.66	298°.3	2″.52	3 5	...	I	1 n

Found by Prof. Bailey at Arequipa, and kindly communicated by Prof. E. C. Pickering.
The p.m. of the chief star is very small.

Ref. Cat. 18h. No. 19. Innes 111. 7.2
18h 7m 37s — 56° 40′.7.

1900.59	310°.6	0″.84	2.5	...	I	
1900.61	300.3	...	...	...	,,	
1900.60	305.5	0.84	2.5	...	I	2–1 n

***h* 5033. Lac. 7611. 6.8**
18h 7m 47s — 48° 52′.8.

1902.46	116°.0	17″.6	[3.6]	...	I	1 n

Previously:—

1834.5	120°.5	10″±	[4.1]	...	h	1 n

With two other stars this pair forms an isolated rhomboid.
There is no material for a determination of the proper motion.
Mag. in C.P.D. = 7.8.

Ref. Cat. 18h. No. 24. C.Z. 18h 496. 9.4
18h 8m 51s — 24° 32′.0.

The original identification was erroneous.

Ref. Cat. 18h. No. 28. Innes 249. 6.3
18h 10m 0s — 63° 54′.8.

1900.59	5°.2	7″.19	4.6	...	I	
1900.61	3.4	6.96	4.6	...	,,	
1900.60	4.3	7.08	4.6	...	I	2 n

Cape 35. C.P.D. — 62°, 5842. MAG 7.9
18h 13m 39s — 62° 37′.7.

1901.61	55°.1	5″.64	0.2	...	I	
1901.65	55.8	5.74	0.2	...	,,	
1901.66	55.4	5.69	0.3	...	,,	
1901.64	55.4	5.69	0.2	...	I	3 n

Colours slightly contrasted.
Found by Mr R. T. Pett at the Transit Circle.

Ref. Cat. 18h. No. 37. ξ Pavonis. 4.2
18h 14m 1s — 61° 32′.4.

1902.51	150°.1	3″.28	4.0	6, B	I	1 n

No change shown.

Ref. Cat. 18h. No. 42. Cordoba [51]. 7.9
18h 16m 8s — 42° 49′.5.

1901.77	138°.9	3″.60	0.3	...	I	
1902.46	138.3	3.33	...	...	,,	
1902.11	138.6	3.46	0.3	...	I	2 n

There are two very faint stars, N. and S.

Ref. Cat. 18h. No. 54. Harvard. 5.8
18h 21m 20s — 57° 35′.0.

1900.42	119°.4	...	...	...	I	
1900.54	121.9	34.6	...	...	,,	
1900.59	119.4	34.3	4.7	...	,,	
1900.52	120.2	34.5	4.7	...	I	3–2 n

The p.m. of the chief star is 0″.081 towards 232°.1.
A fainter and more distant *comes* pr.

Cape 45. C.Z. 18h 1250. 8.7
18h 22m 0s — 46° 22′.4.

1902.51	39°.8	1″.76	0.0	...	I	1 n

Found at the Transit Circle.
The p.m. is 0″.09 towards 284°.2.

Harvard. δ_1 Telescopii. 5.2
18h 24m 21s — 45° 59′.0.

1901.66	Not seen double; fair defin.	I
1902.51	Almost certainly single	,,

Suspected by Prof. Bailey, 1894.7, 0°±, elongated.

Digitized by Google

Ref. Cat. 18h. No. 59. λ 353. MAG. 5.5
18h 24m 32s — 33° 3′.3.

1899.7 Single Cogshall

And in 1900.5, Aitken makes no mention of this close pair when measuring Howe's companion.

Cape 36. C.P.D. — 42°, 8421. 9.3
18h 26m 14s — 42° 43′.9.

1901.77	45°.9	6″.54	0.4	...	I	1 n

Found by Mr R. Woodgate on a *Carte du Ciel* plate.

There is a 12th mag. star at 90° ±, 15″±.

Ref. Cat. 18h. No. 61. κ Coronæ Australis. 5.8
18h 26m 29s — 38° 47′.9.

1901.66	358°.3	21″.6	0.5	—, 2	I	
1901.77	359.0	22.2	1.0	...	,,	
1901.71	358.7	21.9	0.7	—, 2	I	2 n

Fixed.

Ref. Cat. 18h. No. 69. Innes 250. 7.5
18h 34m 6s — 42° 15′.5.

1900.48	132°.7	0″.97	0.7	...	I	
1900.61	132.8	0.94	...	...	,,	
1900.54	132.8	0.95	0.7	...	I	2 n

The p.m. is 0″.04 towards 153°.0.

C.Z. 18h 2002. 8.6
18h 36m 41s — 53° 59′.5.

1900.58	130°.6	3″.35	0.0	...	I	
1900.62	132.0	4.10	0.2	...	,,	
1900.60	131.3	3.72	0.1	...	I	2 n

First seen at Cordoba.

Measured at the Sydney Observatory in 1881 for *h* 5057.

Ref. Cat. 18h. No. 72. λ Coronæ Australis. MAG. 5.3
18h 36m 55s — 38° 25′.2.

A—B = Harvard.

1900.48	214°.8	28″.9	3.8	...	I	
1900.56	214.8	29.1	...	...	L	
1900.62	215.2	29.5	..	...	I	
1900.55	214.9	29.2	3.8	...	Cape	3 n

A—C = New, I.

1900.56	57°.2	40″.0	...	...	L	1 n

The p.m. of the chief star is 0″.063 towards 212°.7.

Ref. Cat. 18h. No. 74. *h* 5057. 9.2
18h 37m 23s — 54° 1′.8.

1900.58	80°.9	12″.1	1.0	...	I	
1900.62	78.8	11.9	...	...	,,	
1900.60	79.9	12.0	1.0	...	I	2 n

Hargrave's measure, purporting to be of this star, belongs to C.Z. 18h 2002.

There are three faint pairs near, one of which is mentioned by *h*.

Ref. Cat. 18h. No. 79. λ 359. 7.7
18h 39m 34s — 43° 53′.5.

1901.81 Probably single; poor definition. I
1901.82 Single; good definition; neighbouring stars also single. I

The p.m. of this star is:—

$$\alpha = +0^{s}.002, \quad \delta = -0''.12.$$

Ref. Cat. 18h. No. 86. *h* 5066. 6.7
18h 43m 57s — 41° 10′.6.

1900.62	88°.0	9″.91	...	...	I	2 n
1900.69	86.5	9.84	...	2, b	,,	
1900.66	87.2	9.87	[2.3]	2, b	I	2 n

The change in angle shown by the measures of Hargrave and See is not confirmed.

Digitized by Google

Harvard. Lac. 7881. MAG. 6.5
18h 45m 8s — 41° 49′.5.

1901.55	339°.2	34″.7	3.5	...	I	
1901.65	340.8	35.5	...	5, —	,,	
1901.60	340.0	35.1	3.5	5. —	I	2 n

The p.m. is very small.

Ref. Cat. 18h. No. 89. Innes 112. 7.2
18h 46m 33s — 47° 23′.7.

1900.48	181°.0	1″.69	2.8	...	I	
1900.56	182.7	1.71	...	...	L	
1900.69	181.9	1.38	...	...	I	
1900.58	181.9	1.59	2.8	...	Cape	3 n

The p.m. is o″.09 towards 243°.0.

Ref. Cat. 18h. No. 90. *h* 5069. 7.5
18h 47m 12s — 61° 56′.7.

A—B.

1901.66	82°.2	0″.90	0.1	...	I	
1901.82	83.6	0.81	0.0	...	,,	
1901.74	82.9	0.85	0.1	...	I	2 n

This close pair is fixed, as *h* on 1836.7 has 81°.9, o″.8±.

AB—C.

1901.82	93°.0	15″.4	4.5	...	I	1 n

Ref. Cat. 18h. No. 91. Gilliss 248. 8.0
18h 48m 18s — 66° 2′.0.

1901.65	128°.5	4″.27	0.2	2, b	I	
1901.66	130.7	4.14	...	...	,,	
1901.66	129.6	4.21	0.2	2, b	I	2 n

Ref. Cat. 18h. No. 96. Innes 113. 6.5
18h 51m 18s — 48° 38′.4.

1900.48	229°.1	2″.77	4.1	..	I	
1900.61	231.7	3.34	4.1	.	,,	
1900.54	230.4	3.06	4.1	...	I	2 n

Ref. Cat. 18h. No. 100. Innes 252. MAG. 7.7
18h 54m 51s — 34° 38′.5.

1900.60	7°.1	0″.93	0.3	...	I	
1900.61	4.6	1.02	0.2	...	,,	
1900.61	5.9	0.97	0.3	...	I	2 n

Prof. See has misidentified this pair, and measured it as λ 367.

Earlier measures are:—

1897.7	9°.6	0″.80	1.0	...	See	1 n
1899.6	8.1	1.07	0.8	...	Cogshall	3 n

Ref. Cat. 18h. No. 109 should be struck out.

Ref. Cat. 18h. No. 101. Cordoba [53]. 7.5
18h 55m 3s — 40° 48′.2.

1900.60	Single	I	1 n

Inserted as a double star in the Ref. Cat. on the authority of the Cordoba Meridian Observations. Should be rejected, as due to some error of reduction.

Ref. Cat. 18h. No. 103. Hargrave [317]. 7.8
18h 55m 45s — 45° 51′.2.

1902.52	284°.2	1″.45	[0.6]	...	I	1 n

The p.m. is o″.04 towards 194°.0.

Ref. Cat. 18h. No. 105. Harvard 6.0
18h 56m 10s — 51° 9′.5.

1900.41	76°.3	21″.8	5.5	...	I	
1900.54	78.3	21.3	6.0	...	,,	
1900.48	77.3	21.6	5.7	...	I	2 n

This would seem to be the more distant of the two *comites* seen at Arequipa.

The p.m. of the chief star is o″.09 towards 191°.8.

Ref. Cat. 18h. No. 107. ζ Sagittarii. 2.9
18h 56m 15s — 30° 1′.4.

						W
1900.79	75°.3	0″.50	...	Day	I	1
1900.82	73.0	0.49	...	,,	,,	1
1900.82	71.0	0.52	...	,,	,,	1
1900.84	71.0	0.38	...	,,	,,	2
1900.84	70.0	0.42	...	,,	,,	2
1900.83	71.6	0.44	...	,,	I	5 n

[contd.

Digitized by Google

						MAG.
1901.66	63.6	0.67	...	...	I	
1901.73	62.7	...	...	...	„	
1901.74	60.8	0.74	0.2	...	„	
1901.80	60.4	0.54	...	...	„	
1901.73	61.9	0.65	0.2	...	I	4–3 n
1902.55	51.2	0.43	...	2, 2	I	1 n

The last angle was given erroneously in the *M. N. R. A. S.*

An orbit by Mr W. Doberck will be found in Ast. Nach. 3970.

Cape 30. C.P.D. — 42°, 8577. 8.7
18h 56m 16s — 42° 46′.7.

1900.68	78.2	3.96	...	...	I	
1900.69	77.7	4.22	0.0	1, b	„	
1900.68	78.0	4.09	0.0	1, b	I	2 n

Found by Mr J. A. J. Pead at the Transit Circle.

Ref. Cat. 18h. No. 113. Australis. γ Coronæ 4.3
18h 59m 40s — 37° 12′.4.

						MAG.
1850.37	6.7	...	...	...	T.M.	
1851.54	184.8	2.26	0.1	...	„	
1851.78	5.5	2.07	...	...	„	
1852.44	4.2	1.85	...	...	„	
1852.58	0.7	2.04	...	...	„	
1851.74	4.4	2.05	—0.1	...	T.M.	5–4 n
1900.61	143.6	1.71	0.0	...	I	
1900.61	141.6	1.82	...	...	L	
1900.62	141.7	2.16	...	...	I	
1900.69	142.9	1.77	...	...	L	
1900.63	142.5	1.69	0.0	...	Cape	4 n

Prof. See's angle in 1897.8 is 10° too small.

Digitized by Google

Ref. Cat. 19h. No. 5. Gale. MAG. 5.6
19h 7m 9s — 66° 50′.0.

1901.82	39°.5	0″.82	0.2	...	I	1 n

Ref. Cat. 19h. No. 7. Harvard 152. 8.2
19h 8m 8s — 29° 26′.5.

1900.82	260°.8	1″.07	1.0	...	I	1 n

Fixed.

Ref. Cat. 19h. No. 8. Cordoba [55]. 8.5
19h 8m 26s — 27° 29′.5.

1900.70	329°.1	2″.20	[0.3]	...	L	1 n

Ref. Cat. 19h. No. 9. Innes 114. 7.8
19h 10m 32s — 63° 4′.5.

1900.61	284°.8	0″.53	0.4	...	I	
1900.68	285.2	0.54	0.5	...	„	
1900.64	285.0	0.53	0.5	...	I	2 n

Ref. Cat. 19h. No. 13. β_1 Sagittarii. 4.2
19h 15m 27s — 44° 38′.8.

1900.62	78°.5	27″.5	...	—, 2	I	
1900.69	77.3	28.0	...	—, 4	„	
1900.66	77.9	27.8	[3.1]	—, 3	I	2 n

Common proper motion.

Ref. Cat. 19h. No. 14. *h* 5103. 8.8
19h 15m 31s — 71° 58′.2.

1900.51	244°.2	13″.2	2.7	...	I	
1900.61	243.7	12.6	...	...	L	
1900.56	244.0	12.9	2.7	...	Cape	2 n

Ref. Cat. 19h. No. 16. Innes 115. 8.0
19h 16m 37s — 62° 22′.5.

1900.51	54°.0	2″.71	...	...	I	
1900.61	55.4	2.93	2.9	...	„	
1900.61	56.0	2.96	...	...	L	
1900.58	55.1	2.87	2.9	...	Cape	3 n

Ref. Cat. 19h. No. 17. Innes 116. MAG. 8.4
19h 16m 43s — 46° 8′.0.

1900.48	30°.2	2″.22	1.5	...	I	
1900.61	30.2	2.38	0.5	..	„	
1900.55	30.2	2.30	1.0	...	I	2 n

C.Z. 19h. 648, mag. 8.6, orange colour, is 17″ S.

Ref. Cat. 19h. No. 23. λ 373. 9.0
19h 19m 18s — 42° 5′.1.

1901.80 Single; several neighbouring stars also examined. I 1 n

Ref. Cat. 19h. No. 24. *h* 5114. 5.5
19h 19m 46s — 54° 31′.5.

1900.72 No companion seen. Chief star golden yellow. I 1 n

C.Z. 19h. 774, mag. 8.1, is in the field; it has a 13m companion at 200°±, 10″±.

Ref. Cat. 19h. No. 30. Innes 254. 8.0
19h 23m 4s — 48° 38′.4.

1900.48	212°.1	1″.01	0.0	...	I	
1900.61	213.5	0.85	0.0	...	„	
1900.54	212.8	0.93	0.0	...	I	2 n

Common proper motion of 0″.11 towards 232°.0.

Ref. Cat. 19h. No. 32. Innes 117. 7.0
19h 23m 26s — 60° 28′.6.

1900.61	184°.8	0″.88	0.5	...	I	
1900.68	183.4	0.85	0.6	...	„	
1900.64	184.1	0.86	0.6	...	I	2 n

Ref. Cat. 19h. No. 34. Innes 118. 7.4
19h 25m 33s — 46° 59′.1.

1900.48	126°.9	1″.25	...	3, b	I	
1900.61	128.1	0.86	2.0	...	„	
1900.54	127.5	1.06	2.0	3, b	I	2 n

Common proper motion of 0″.19 towards 157°.0.

Digitized by Google

Ref. Cat. 19h. No. 35. Innes 255. MAG. 8.6
19h 25m 41s — 48° 55′.0.

1900.48	172°.7	2″.69	2.5	...	I	
1900.61	173.6	2.27	2.7	...	„	
1900.54	173.2	2.46	2.6	...	I	2 n

Ref. Cat. 19h. No. 36. λ 380.
Cor. DM. — 38°, 13,557.
19h 28m 3s — 38° 13′.7.

Misidentified by Prof. See.
Seen here first, as mentioned in the note in the Ref. Cat.

Ref. Cat. 19h. No. 39. λ 382. 8.0
19h 28m 14s — 41° 38′.4.

1901.80	306°.7	1″.79	0.3	...	I	
1901.82	308.0	2.22	0.4	...	„	
1901.81	307.3	2.00	0.4	...	I	2 n

See's angle is 293°.1 on 1897.8.
The p.m. is 0″.01 towards 180°.

Ref. Cat. 19h. No. 44. λ 387. 6.2
19h 32m 31s — 45° 30′.3.

1901.80	Single.	I	1 n

Ref. Cat. 19h. No. 47. H. I. 13. 7.1
19h 33m 14s — 10° 22′.9.

A—B.

1900.70	321°.6	3″.52	[1.8]	L	1 n

A—C.

1900.70	C invisible; clear night; dark field.	L	1 n

A—D

1900.70	167°.6	27′.4	2.9	...	L	1 n

Ref. Cat. 19h. No. 49. Innes 119. MAG. 7.5
19h 34m 0s — 59° 14′.2.

1900.61	180°.6	1″.26	...	...	L	
1900.61	181.9	1.25	1.0	...	I	
1900.69	176.8	1.11	0.8	3, 3	„	
1900.64	179.8	1.21	0.9	3, 3	Cape	3 n

Ref. Cat. 19h. No. 51. Cordoba [56]. 7.0
19h 34m 27s — 53° 10′.8.

1900.41	52°.6	3″.25	...	...	I	
1900.61	52.5	3.06	1.5	...	„	
1900.61	52.8	3.15	...	...	L	
1900.54	52.6	3.15	1.5	...	Cape	3 n

Ref. Cat. 19h. No. 54. Lac. 8194. 7.5
19h 40m 14s — 62° 3′.4.

A—B = Innes 120

1900.61	150°.4	0″.41	0.5	3, 3	I	
1900.68	153.8	0.63	...	...	„	
1901.53	148.8	0.65	0.0	2, 2	„	
1901.76	155.2	0.79	...	...	„	
1901.19	152.1	0.62	0.3	2½, 2½	I	4 n

AB—C = *h* 5141

1900.61	343°.8	14″.2	3.5	...	I	
1900.68	344.2	14.0	...	...	„	
1900.64	344.0	14.1	3.5	...	I	2 n

C is fixed.

Ref. Cat. 19h. No. 61. Innes 121. 5.5
19h 42m 16s — 59° 26′.6.

1900.61	89°.3	0.63	2.5	...	I	
1900.68	88.6	..	...	...	„	
1900.64	89.0	0.63	2.5		I	2–1 n

Digitized by Google

h 5148. Lac. 8222. MAG. 7.2
19h 43m 2s — 45° 37′.7.

1901.82	318°.5	14″.0	4.9	...	I	
1901.84	317.6	14.0	4.0	...	,,	
1901.83	318.0	14.0	4.5	...	I	2 n

Previously :—

1834.5	317°.4	12″±	5.0	...	*h*	1 n

Ref. Cat. 19h. No. 62. Innes 122. 7.6
19h 43m 45s — 42° 6′.6.

1900.61	340°.3	5″.15	...	. .	L	
1900.61	339.3	5.17	2.5	...	I	
1900.62	337.5	4.86	...	...	,,	
1900.61	339.0	5.06	2.5	...	Cape	3 n

The p.m. of the chief star is:—

$\alpha = +0^s.001$, $\delta = -0''.03$.

Ref. Cat. 19h. No. 64. Dunlop 227. 5.5
19h 44m 40s — 55° 13′.5.

1900.68	149°.5	23″.2	...	3, B	I	
1900.69	149.5	23.3	...	5, B	,,	
1900.68	149.5	23.3	[1.3]	4, B	I	2 n

There is a 12.5 mag. star 19″± N.pr. the chief star.

Ref. Cat. 19h. No. 66. h 5152. 8.1
19h 47m 9s — 30° 31′.5.

1900.70	154°.8	5″.98	[0.5]	...	L	1 n

Fixed.

Harvard. Lac. 8293. 6.0
19h 53m 38s — 37° 58′.5.

1901.82	208°.7	23″.3	7.5	...	I	
1901.84	210.1	22.8	...	...	,,	
1901.83	209.4	23.0	7.5	...	I	2 n

There is no material for a determination of the proper motion.

Ref. Cat. 19h. No. 73. Innes 256. MAG. 7.3
19h 54m 10s — 47° 40′.3.

1900.68	202°.8	1″.06	2.0	...	I	
1900.73	199.9	0.91	...	...	,,	
1900.70	201.4	0.99	2.0	...	I	2 n

The p.m. is :—

$\alpha = -0^s.002$, $\delta = -0''.02$.

Harvard. Lac. 8300. 7.7
19h 54m 32s — 38° 51′.5

1901.84	145°.2	0″.57	0.5	2, 2	I	
1901.85	149.0	0.52	0.2	...	,,	
1901.84	147.1	0.55	0.4	2, 2	I	2 n

Found at Arequipa :—

1899	120°±	1″.5±	2.8	...	Clymer	1 n

The p.m. is very small.

Ref. Cat. 19h. No. 77. λ 403. 7.2
19h 57m 10s — 36° 20′.4.

1901.84	Neither companion seen	I
1902.55	A under 0″.4, if double ; C not seen	,,

Prof. See's identification must be erroneous in some way. The above star has a 13th mag. companion 15″ N.pr., to which Prof. See makes no reference.

Ref. Cat. 19h. No. 78. λ 404. 6.7
19h 59m 9s — 33° 17′.0.

1901.84	73°.3	0″.69	2.0	...	I	
1901.85	75.0	0.93	2.0	...	,,	
1901.85	74.2	0.81	2.0	...	I	2 n

A 12m star at 183°±, measured by Prof. See, was seen.

Digitized by Google

h 5168. Lac. 8346. MAG. 6.7
20h 1m 11s — 30° 0′.6.

B = Cor. DM. −30°, 17,665, Mag. 10.0.

1902.55	79°.9	18″.8	3.0	5, —	I	1 n

There is a 12m star f.
The p.m. of A is very small.

Ref. Cat. 20h. No. 7. h 5167. 7.0
20h 2m 53s — 63° 54′.6.

1900.62	35°.8	7″.58	...	...	I	
1900.69	35.3	...	...	...	,,	
1900.65	35.6	7.58	[0.9]	...	I	2–1 n

Fixed.

Harvard. Lac. 8337. 6.5
20h 3m 0s — 57° 49′.0.

1901.53	230°.7	0″.58	0.0	2, 2	I	
1901.76	225.1	0.76	0.5	...	,,	
1901.64	227.9	0.67	0.3	2, 2	I	2 n

Discovered at Arequipa, and communicated by Prof. E. C. Pickering :—

1899 270°± Elong.? Clymer 1 n

The p.m. is very small.

Ref. Cat. 20h. No. 8. Innes 123. 7.1
20h 3m 30s — 47° 1′.6.

1900.62	176°.9	10″.7	...	4, B	I	
1900.68	172.6	10.8	...	...	,,	
1900.69	174.8	10.7	3.9	3, —	,,	
1900.66	174.8	10.7	3.9	3, b	I	3 n

The p.m. is very small.

Ref. Cat. 20h. No. 9. h 5173. 5.3
20h 4m 38s — 36° 21′.2.

1900.61	122°.4	9″.09	...	...	L	
1900.70	121.7	9.01	...	...	,,	
1900.66	122.0	9.05	[5.9]	...	L	2 n

Large common proper motion system.

Harvard. Lac. 8343. MAG. 7.2
20h 5m 30s — 64° 43′.7.

1901.53	305°.9	17″.3	3.1	2, —	I	
1901.84	306.1	17.6	...	...	,,	
1901.68	306.0	17.5	3.1	2, —	I	2 n

This star is marked : in the C.P.D. ; this applies to a 10th mag. star, distance 25″± in the same quadrant.

Ref. Cat. 20h. No. 12. h 5177. 8.1
20h 6m 54s — 57° 16′.5.

1900.62	28°.9	8″.24	...	...	I	
1900.68	28.1	7.91	...	...	,,	
1900.65	28.5	8.07	[0.1]	...	I	2 n

No change.

Ref. Cat. 20h. No. 13. h 5178. 6.7
20h 7m 17s — 34° 25′.1.

1900.60	9°.9	2″.67	...	...	L	
1900.61	10.1	2.89	...	...	,,	
1900.60	10.0	2.78	[2.2]	...	L	2 n

Fixed.

Ref. Cat. 20h. No. 14. Innes 299. 8.5
20h 7m 20s — 36° 20′.4.

1900.68	37°.7	0″.51	0.2	...	I	
1900.82	40.4	0.57	0.3	...	,,	
1900.75	39.0	0.54	0.3	...	I	2 n

Innes 411. C.Z. 20h 184. 8.5
20h 7m 25s — 62° 28′.0.

1901.84	284°.8	1″.05	2.5	...	I	
1901.84	278.6	0.71	...	...	,,	
1901.85	281.3	0.73	2.1	...	,,	
1901.84	281.9	0.83	2.3	...	I	3 n

Ref. Cat. 20h. No. 17. Innes 124. 7.7
20h 9m 30s — 63° 28′.0.

To be struck out, viz. :—

1900.68, 1900.72, 1900.73, 1901.84

Single I 4 n

Digitized by Google

Ref. Cat. 20h. No. 18. Innes 125. MAG. 8.2
20h 9m 32s — 46° 12′.8.

1900.68	42°.4	1″.39	0.8	2, b	I	
1900.73	42.1	1.52	0.5	...	„	
1900.70	42.2	1.46	0.7	2, b	I	2 n

The p.m. is o″.02 towards 180°.

Ref. Cat. 20h. No. 19. Ormond Stone. 7.3
20h 10m 35s — 32° 55′.0.

1900.60	304°.2	2″.35	[0.5]	...	L	1 n

Innes 378. C.Z. 20h 287 8.5
20h 10m 40s — 46° 15′.7.

1900.68	148°.6	3″.84	3.5	...	I	
1900.73	148.7	4.01	3.5	4, —	„	
1900.70	148.7	3.92	3.5	4, —	I	2 n

Ref. Cat. 20h. No. 22. Cordoba [57]. 7.8
20h 13m 57s — 55° 7′.4.

1901.84	1°.8	4″.58	2.5	2, b	I	
1901.85	1.2	4.16	1.5	...	„	
1901.84	1.5	4.37	2.0	2, b	I	2 n

Ref. Cat. 20h. No. 28. Innes 126. 9.0
20h 15m 19s — 57° 25′.6.

1900.68	76°.9	1″.72	0.1	...	I	
1900.72	77.1	1.53	0.2	...	„	
1900.70	77.0	1.63	0.1	...	I	2 n

This star is C.Z. 20h.437.

Ref. Cat. 20h. No. 30. κ_1 Sagittarii. 5.8
20h 15m 40s — 42° 21′.9.

A—B = *h* 5190.

1900.51	307°.3	29″.5	6.8	...	I	
1900.82	306.5	30.1	...	...	„	
1900.66	306.9	29.8	6.8	...	I	2 n

[contd.

A—C. MAG.

1900.51	276°.9	50″.7	5.8	...	I	
1900.82	277.2	50.3	...	...	„	
1900.66	277.0	50.5	5.8	...	I	2 n

The change shown since *h* is probably due to the p.m. of the chief star.

There is a slightly more distant star S.

Innes 430. C.P.D. — 36°, 9113. 8.5
20h 15m 47s — 35° 59′.2.

1902.51	132°.3	2″.82	2.0	...	I	
1902.55	133.6	2.82	2.0	...	„	
1902.53	133.0	2.82	2.0	...	I	2 n

There is a 9.0 mag. star 4^{secs}. pr., 1′.3 S.

***h* 5182. Lac. 8331. 6.1**
20h 16m 39s — 81° 17′.6.

1901.84	356°.9	26″.9	...	3, b	I	1 n

Previously:—

1837.7	352°.7	30″ ±	5.7	...	*h*	1 n

The p.m. is very small.

Ref. Cat. 20h. No. 36. Russell 321. 6.2
20h 20m 24s — 37° 43′.6.

1902.51	83°.2	1″.33	2.0	...	I	
1902.55	83.7	1.30	2.5	3, b	„	
1902.53	83.4	1.31	2.2	3, b	I	2 n

This fine pair has a common proper motion o″.341 towards 245°.8.

The angle is decreasing.

Prof. See has 99°.7 in 1896. This angle was set on, but it would not do.

Query if misprint for 89°.7.

Ref. Cat. 20h. No. 48. Innes 127. 9.0
20h 27m 7s — 44° 51′.0.

1900.51	54°.4	...	[0.5]	...	I	
1900.66	No sign of duplicity; a good night				„	
1900.82	Single; medium night				„	
1901.85	Single				„	
1902.51	Single				„	

Seen independently on two nights in 1896.

There is a faint star between this and ν Microscopii.

Digitized by Google

Ref. Cat. 20h. No. 51. Innes 41. MAG. 7.5
20h 29m 35s — 45° 54′.2.

1901.53	1.3	1.72	0.7	2, b	I	
1901.85	0.2	1.84	1.2	...	,,	
1901.69	0.8	1.78	1.0	2, b	I	2 n

Fixed.

The p.m. is very small, viz. :—

0″.01 towards 360°.

Ref. Cat. 20h. No. 53. α Indi. 3.2
20h 30m 32s — 47° 38′.4.

A—C = *h* 5209.

1900.74	199.8	66.2	[8.8]	...	L	1 n

A—B = Sellors.

1900.74	344.5	62.7	[10.8]	...	L	1 n

The distance of A—B is decreasing, and of A—C increasing, on account of the p.m. of α Indi.

Ref. Cat. 20h. No. 61. Innes 128. 8.0
20h 36m 18s — 52° 9′.4.

1900.51	327.4	3.45	...	...	I	
1900.66	325.8	2.60	2.5	...	,,	
1900.58	326.6	3.03	2.5	...	I	2 n

Ref. Cat. 20h. No. 63. Innes 17. 7.2
20h 37m 46s — 50° 50′.9.

1901.85	219.5	0.90	0.1	...	I	1 n

Ref. Cat. 20h. No. 70. Innes 300. 8.5
20h 40m 53s — 17° 3′.8.

1901.85	299.1	3.93	0.1	b, 3	I	1 n

We also find :—

1900.5	297.7	3.84	0.2	...	Doolittle	3 n

Cape. Ö.A. 20,867. MAG 8.5
20h 43m 10s — 20° 59′.3.

Noted as double at the Transit Circle in 1880 and again independently in 1902.

The proper motion is 0″.21 towards 118°.5.

Ö.A. 20,874, mag. 8.0, is 18secs. f., 27″ S. It has a larger p.m. in the same quadrant.

These two stars form the old pair *h* 2998 :—

182—	145.4	5±	0.5	...	*h*	1 n

Ref. Cat. 20h. No. 72. Rumker 26. 5.8
20h 43m 18s — 62° 48′.0.

1900.49	96.1	2.79	...	...	I	
1900.56	95.0	2.62	...	...	L	
1900.71	94.4	2.55	0.3	...	I	
1900.59	95.2	2.65	0.3	...	Cape	3 u

Innes 337. G.P.Z. 14,669. 8.9
20h 45m 25s — 87° 27′.0.

A—B.

1900.82	289.5	0.97	1.0	...	I	
1900.88	288.8	1.04	0.4	...	,,	
1900.85	289.2	1.01	0.7	...	I	2 n

G.P.Z. 14,664 is 18″ distant, and has been measured as *h* 5192.

There is also an 11th mag. star 50″± f.

Ref. Cat. 20h. No. 80–82. λ 431 and 432.

These two pairs were not seen by Mr Hussey on one night with the 36-in. Lick refractor.

Mr Cogshall gives as the correct position :—

B.D. — 19°, 5940, 20h 46m 14s — 19°48′.0 and λ 432 = λ 431.

Ref. Cat. 20h. No. 81. Innes 18. 7.2
20h 47m 53s — 52° 29′.7.

1900.49	5.2	4.56	3.3	...	I	
1900.66	2.3	4.13	3.0	...	,,	
1900.58	3.7	4.35	3.2	...	I	2 n

Digitized by Google

Ref. Cat. 20h. No. 83. Innes 129. MAG. 7.7
20h 48m 34s — 59° 39′.2.

A—B.

1900.66	17°.2	1″.49	2.0	...	I	
1900.71	17.8	1.78	2.0	...	,,	
1900.68	17.5	1.63	2.0	...	I	2 n

A—C.

1900.68	30°±	30″±	5.3	...	I	2 n

Ref. Cat. 20h. No. 93. Innes 257. 7.8
20h 56m 55s — 76° 22′.6.

1901.76	292°.9	1″.40	0.4	...	I	
1901.85	293.7	1.65	0.3	...	,,	
1901.80	293.3	1.52	0.4	...	I	2 n

Ref. Cat. 20h. No. 95. Innes 130. 7.0
20h 57m 15s — 48° 21′.3.

1900.49	316°.8	3″.04	...	2, b	I	
1900.66	316.8	3.36	3.5	...	,,	
1900.57	316.8	3.20	3.5	2, b	I	2 n

The p.m. is 0″.03 towards 225°.

Ref. Cat. 20h. No. 96. h 5233. MAG. 7.6
20h 57m 28s — 83° 40′.4.

1900.49	268°.3	11″.4	3.9	...	I	
1900.71	270.3	11.8	...	...	,,	
1900.60	269.3	11.6	3.9	...	I	2 n

A slight decrease in angle is shown.

Ref. Cat. 20h. No. 100. Lac. 8625. 5.8
20h 58m 50s — 73° 33′.6.

A—B = Innes 379.

1898.0	350°±	0″.9 0.3 ...	I
1900.82	138°±	in direction of C	,,
1901.76	180°± ?		,,
1901.85	280°± ? ?		,,
1902.40	318°± ? ?		,,
1902.51	240°± ? ?		,,

The only estimates of value are the two earliest. Of the duplicity on these two occasions there was no doubt whatever.

AB—C = Harvard.

1900.82	135°.6	7″.64	7.1	4, —	I	
1901.85	137.4	8.14	...	...	,,	
1902.51	134.4	8.40	8.1	...	,,	
1901.73	135.8	8.07	7.6	4, —	I	3 n

A triple system, with a common proper motion of 0″.61 towards 130°.1.

Digitized by Google

Ref. Cat. 21h. No. 1. Innes 301. MAG. 9.0
21h 0m 35s — 36° 54′.7.

1900.51	340°.4	4″.11	0.4	...	I	
1900.66	339.3	3.81	0.5	...	,,	
1900.58	339.9	3.96	0.5	...	I	2 n

Ref. Cat. 21h. No. 8. Innes 258. 7.7
21h 4m 48s — 60° 27′.4.

1900.71	103°.9	0″.61	0.4	...	I	
1900.73	101.5	0.58	0.3	...	,,	
1902.51	111.9	0.49	1.5	...	,,	
1902.58	109.1	0.54	1.0	...	,,	
1901.64	106.6	0.55	0.8	...	I	4 n

Ref. Cat. 21h. No. 12. λ 441.

Original identification by Prof. See erroneous. (Cogshall.)

For

Cor. DM.−25°, 15,323. 21h 9m 50s,−24° 58′.7

Read

Cor. DM.−25°, 15,377. 21h 15m 42s,−25° 7′.7.

Ref. Cat. 21h. No. 15. θ Indi 4.6
21h 12m 44s — 53° 52′.1.

1900.56	284°.6	4″.33	...	...	L	
1900.60	285.5	4.47	...	...	,,	
1900.58	285.1	4.40	[2.5]	...	L	2 n

Ref. Cat. 21h. No. 19. Innes 131. 9.0
21h 14m 47s — 52° 12′.3.

1900.73	Nil.				I	
1901.76	No double there				,,	
To be struck out.					I	2 n

Ref. Cat. 21h. No. 20. Innes 132. 7.5
21h 16m 5s — 52° 22′.0.

1900.71	297°.7	1″.28	1.7	...	I	
1900.73	298.1	1.49	1.5	...	,,	
1900.72	297.9	1.39	1.6	...	I	2 n

Ref. Cat. 21h. No. 22. θ_2 Microscopii. MAG. 6.0
21h 18m 2s — 41° 26′.1.

1900.71	293°.7	1″.03	0.3	...	I	
1900.82	290.8	0.88	...	...	,,	
1900.76	292.3	0.96	0.3	...	I	2 n

The p.m. is 0″.01 towards 315°.

Change doubtful; the discordant measures—extending over 42°—given in the Ref. Cat. suggested rapid binary motion. The angle is perhaps decreasing very slowly.

Ref. Cat. 21h. No. 27. *h* 5267. 7.2
21h 20m 1s — 46° 29′.7.

1900.71	No star within 5″. A 13th mag. star, 200°±, 25″. *h* companion not seen				I	1 n

This star has a p.m. of about 0″.13 towards 10°, but this does not account for the disappearance of the *h* companion.

Ref. Cat. 21h. No. 28. Melbourne [6]. 5.7
21h 20m 37s — 42° 58′.9.

1900.56	146°.9	2″.97	...	..	L	
1900.60	144.7	2.77	...	...	,,	
1900.58	145.8	2.87	[2.1]	...	L	2 n

Fixed.

Common proper motion of 0″.09 to 270°.0.

Innes 380. Lalande 41,984. 8.2
21h 29m 57s — 19° 12′.9.

A—B.

1900.84	356°.0	1″.33	0.7	0.2	I	1 n

A—C.

1900.84	71°±	41″±	4.3	...	I	1 n

Ref. Cat. 21h. No. 41. Innes 302. 9.0
21h 32m 46s — 11° 21′.0.

1900.84	89°.4	2″.47	1.2	...	I	1 n

Digitized by Google

Ref. Cat. 21h. No. 45. λ Octantis. MAG. 5.4
21h 35m 35s — 83° 10′.7.

1900.49	77°.7	3″.33	2.5	1, b	I	
1900.56	81.7	3.16	...	...	L	
1900.60	79.3	3.02	...	...	,,	
1900.55	79.6	3.17	2.5	1, b	Cape	3 n

Ref. Cat. 21h. No. 47. λ ... 8.5

This should be struck out, as it is evidently the same star as No. 52 = λ 456, some 20′ distant N.f.

Ref. Cat. 21h. No. 53. Innes 19. 6.9
21h 40m 52s — 65° 57′.9.

1900.60	340°.8	1″.38	...	...	L	
1900.66	343.0	1.31	...	...	,,	
1902.51	339.8	1.24	1.2	...	I	
1901.26	341.2	1.31	1.2	...	Cape	3 n

Ref. Cat. 21h. No. 55. Brisbane. 5.7
21h 41m 46s — 47° 45′.5.

1900.60	359°.4	46″.1	...	...	L	
1901.80	359.5	46.7	...	2, 6	I	
1901.89	359.2	46.9	...	—, 6	,,	
1901.43	359.4	46.6	[3.0]	2, 6	Cape	3 n

Ref. Cat. 21h. No. 56. θ Piscis Australis. 5.1
21h 41m 52s — 31° 21′.7.

1900.84	338°.5	35″.6	5.3	...	I	
1900.88	339.6	35.9	...	...	,,	
1900.86	339.0	35.8	5.3	...	I	2 n

Common proper motion of 0″.65.

Ref. Cat. 21h. No. 61. Cordoba [59]. 9.2
21h 43m 31s — 54° 51′.9.

1900.84	149°.4	3″.74	0.1	...	I	
1900.88	153.0	3.63	1.0	...	,,	
1900.86	151.2	3.69	0.5	...	I	2 n

Colours slightly contrasted.

Ref. Cat. 21h. No. 65. h 5292. MAG. 9.0
21h 47m 7s — 85° 12′.8.

1901.85	155°.7	5″.49	...	...	I	1 n

Harvard. Lac. 8939. 5.9
21h 47m 49s — 62° 21′.3.

1901.80	110°.2	0″.3± [0.3]	3, 3	I	
1901.85	116.1	...	...	,,	
1902.51	Certainly single			,,	

Found at Arequipa :—

1899 105°± 0″.5 elong. Clymer 1 n
The p.m. in α is uncertain; in δ = − 0″.08.

Ref. Cat. 21h. No. 72. Cordoba [61]. 8.6
21h 53m 57s — 30° 27′.6.

1901.80	258°.7	3″.35	...	2, b	I	
1901.89	258.7	2.86	...	...	,,	
1901.84	258.7	3.10	[0.3]	2, b	I	2 n

Innes 338. C.Z. 21h 1645. 8.0
21h 54m 3s — 56° 57′.0.

1900.82	285°.2	0″.92	1.5	...	I	
1900.84	273.4	0.84	1.3	...	,,	
1900.83	279.3	0.88	1.4	...	I	2 n

Ref. Cat. 21h. No. 79. λ 466. 8.5
21h 58m 57s — 40° 11′.2.

1901.80	267°.0	2″.22	0.6	...	I	
1901.82	268.5	2.43	...	...	,,	
1901.81	267.7	2.32	0.6	...	I	2 n

Innes 381. C.Z. 21h 1813. 8.2
21h 59m 11s — 56° 57′.4.

1900.84	111°.0	1″.91	2.0	2, b	I	
1900.88	114.0	1.76	1.5	...	,,	
1902.51	110.7	1.72	...	...	,,	
1902.58	111.2	1.98	1.5	...	,,	
1901.70	111.7	1.84	1.7	2, b	I	4 n

Digitized by Google

Ref. Cat. 22h. No. 1. h 5316. MAG. 8.0
22h 0m 3s — 59° 36′.9.

1901.80	142°.3	3″.82	...	2, b	I	
1901.85	141.5	3.89	2.0	..	,,	
1901.82	141.9	3.85	2.0	2, b	I	2 n

Innes 339. C.Z. 22h 117. 8.5
22h 5m 49s — 75° 29′.4

1900.73	179°.6	2″.41	1.2	...	I	
1900.82	180.0	clouded		...	,,	
1900.78	179.8	2.41	1.2	...	I	2–1 n

Cape 37. C.P.D. — 61°, 6626. 8.4
22h 6m 2s — 61° 41′.8.

1901.80	194°.8	5″.80	0.0	...	I	
1901.85	194.7	4.91	0.1	...	,,	
1901.89	194.0	5.20	0.2	...	,,	
1901.85	194.5	5.30	0.1	...	I	3 n

Found by Mr R. T. Pett at the Transit Circle.

Ref. Cat. 22h. No. 14. Innes 20. 7.1
22h 10m 58s — 63° 18′.6.

1900.73	342°.9	0″.65	0.6	...	I	
1900.84	343.5	0.71	0.4	...	,,	
1902.51	339.3	0.55	0.6	...	,,	
1901.36	341.9	0.64	0.5	...	I	3 n

Harvard. Lac. 9062. 7.3
22h 11m 11s — 68° 48′.4.

1901.85	89°.3	26″.8	4.2	...	I	1 n

There is no material for a determination of the p.m.

Ref. Cat. 22h. No. 15. Harvard. 5.4
22h 11m 42s — 54° 6′.5.

1900.84	16°.0	2″.34	5.1	...	I	
1900.88	16.7	2.24	5.1	...	,,	
1900.86	16.3	2.29	5.1	...	I	2 n

Ref. Cat. 22h. No. 16. Innes 303. MAG. 8.2
22h 12m 20s — 50° 24′.2.

A—B.

1900.66	33°.5	25″.5	...	...	I	
1900.84	32.5	25.2	...	...	,	
1900.75	33.0	25.4	[1.8]	...	I	2 n

B—C.

1900.66	56°.7	2″.71	0.3	...	I	
1900.84	56.9	2.71	...	...	,,	
1900.75	56.8	2.71	0.3	...	I	2 n

The p.m. of the chief star is 0″.239 towards 123°.0.

Ref. Cat. 22h. No. 17. Innes 134. 7.7
22h 16m 3s — 56° 39′.4.

1900.73	306°.2	0″.43	0.3	...	I	
1900.84	217.3	0.62	0.3	...	,,	
1900.88	318.9	0.69	...	...	,,	
1900.82	307.5	0.58	0.3	...	I	3 n

Ref. Cat. 22h. No. 18. π_1 Gruis. 6.7
22h 16m 37s — 46° 27′.1.

1900.66	201°.1	3″.07	5.0	...	I	
1900.71	198.0	2.70	...	...	L	
1900.82	204.2	clouded			,,	
1900.84	202.1	3.01	...	...	I	
1900.76	201.4	2.96	5.0	...	Cape	4–3n

The p.m. is small and uncertain.

Innes 382. π_2 Gruis. 5.8
22h 16m 59s — 46° 25′.9.

1900.84	207°.9	4″.70	6 7	...	I	
1901.85	206.7	4.50	...	...	,,	
1901.34	207.3	4.60	6.7	...	I	2 n

The p.m. of the chief star is 0″.22 towards 108°.7.

Digitized by Google

Innes 383. Lac. 9112. MAG. 5.4
22h 18m 18s — 58° 17′.7.

1900.84	247°±	23″.1±	9.1	...	I	
1901.85	251.1±19.8±		9.6	...	„	
1901.34	249.0	21.4	9.3	...	I	2 n

The measures are little better than estimates, as the companion could not be seen if the least illumination was used. The first distance was worked out as 41″. This has been corrected by 1 rev. somewhat doubtfully.
The p.m. of the chief star is 0″.384 towards 155°.8.

Ref. Cat. 22h. No. 20. Innes 136. 7.5
22h 19m 53s — 45° 37′.2.

1900.66	268°.5	1″.39	0.7	2, b	I	
1900.84	270.2	2.14	1.3	...	„	
1900.75	269.4	1.77	1.0	2, b	I	2 n

Ref. Cat. 22h. No. 22. Innes 137. 7.0
22h 20m 46s — 58° 30′.6.

1900.71	Not seen double				L	
1900.84	333°.9	1″.93	3.0	...	I	
1901.85	335.2	...	...	...	„	
1901.34	334.5	1.93	3.0	...	I	2–1 n

Ref. Cat. 22h. No. 24. ζ Aquarii. 3.8
22h 23m 41s — 0° 31′.9.

1900.82	323°.3	3″.19	[0.1]	...	L	1 n

Harvard. Lac. 9147. 6.8
22h 24m 53s — 49° 56′.4.

1901.76	283°.6	19″.8	5.2	...	I	1 n

The p.m. of the chief star is 0″.22 towards 222°.2.

Ref. Cat. 22h. No. 30. β Piscis Australis. 4.5
22h 25m 49s — 32° 51′.5.

1900.56	172°.6	30″.2	...	...	L	
1900.77	172.1	30.5	...	...	„	
1900.66	172.4	30.4	[3.0]	...	L	2 n

Ref. Cat. 22h. No. 37. Innes 138. MAG. 6.8
22h 32m 0s — 40° 22′.6.

1900.66	280°.6	3″.16	4.4	...	I	
1900.71	278.9	3.44	5.3	...	L	
1900.68	279.7	3.30	4.8	...	Cape	2 n

The p.m. of the chief star is 0″.09 towards 270°.0.

Ref. Cat. 22h. No. 38. *h* 5348. 8.5
22h 32m 41s — 59° 19′.6.

1900.71	274°.8	4″.18	3.4	...	L	1 n

The only complete measure.
Probably fixed.

Ref. Cat. 22h. No. 39. H. N. 117. 7.5
22h 34m 13s — 28° 52′.1.

1900.85	60°.1	3″.15	[0.8]	...	L	1 n

Ref. Cat. 22h. No. 40. Lalande 180. 8.0
22h 34m 15s — 13° 7′.8.

1900.85	314°.5	3″.99	[0.1]	...	L	1 n

Ref. Cat. 22h. No. 42. Cordoba [63]. 6.3
22h 36m 39s — 47° 43′.5.

1901.76	131°.6	8″.04	...	3, 6	I	
1902.58	132.2	7.70	...	...	„	
1902.17	131.9	7.87	[4.0]	3, 6	I	2 n

Ref. Cat. 22h. No. 45. η Gruis. 4.9
22h 39m 30s — 54° 1′.6.

1901.76	184°.9	24″.0	7.6	...	I	1 n

Ref. Cat. 22h. No. 48. Innes 304. 8.0
22h 40m 51s — 48° 50′.6.

1900.61	358°.3	4″.47	0.2	3, b	I	
1900.71	358.9	4.47	...	...	L	
1900.85	361.0	4.40	...	...	„	
1900.72	359.4	4.45	0.2	3, b	Cape	3 n

Digitized by Google

Ref. Cat. 22h. No. 49. Innes 140. MAG. 8.3
22h 41m 36s — 55° 1′.5.

1900.61	271°.3	4″.22	1.5	...	I	
1900.85	269.1	4.44	...	...	L	
1900.73	270.2	4.33	1.5	...	Cape	2 n

Harvard. Piazzi 22h. No. 224. 6.4
22h 44m 25s — 33° 20′.0.

1900.87	90°±	Perhaps elongated?		I	1 n

Found at Arequipa :—

1899	90°±	0″.4±?	0.0	...	Clymer	1 n

Cape 31. C.P.D. — 58°, 8008. 8.2
22h 45m 10s — 58° 5′.1.

1900.87	172°.9	7″.82	0.5	...	I	1 n

Found by Mr W. H. Cox at the Transit Circle.

Innes 340. Lac. 9268. 6.1
22h 45m 41s — 63° 43′.0.

1900.73	21°.0	1″.21	3.0	3, b	I	
1900.87	19.0	1.21	3.0	3, —	,,	
1900.80	20.0	1.21	3.0	3, b	I	2 n

Ref. Cat. 22h. No. 55. γ Piscis Australis. 4.7
22h 46m 58s — 33° 24′.3

1900.77	267°.9	4″.06	[4.2]	...	L	1 n

Ref. Cat. 22h. No. 57. Innes 22. MAG. 7.1
22h 49m 27s — 49° 0′.0.

1900.73	184°.2	0″.48	0.1	...	I	
1900.87	185.1	0.43	0.2	3, 3	,,	
1901.80	184.7	0.45	0.2	3, 3	I	2 n

Ref. Cat. 22h. No. 67. Innes 259. 7.5
22h 58m 17s — 55° 34′.0.

1900.61	95°.2	0″.88	0.1	...	I	
1900.87	98.7	1.23	0.1	...	,,	
1900.90	98.3	0.96	0.3	...	,,	
1900.79	97.4	1.02	0.2	...	I	3 n

Ref. Cat. 22h. No. 68. G.P.Z. 16,143. 8.8
22h 58m 52s — 75° 18′.4.

A—B = Sellors.

1901.76	73°.0	3″.67	2.5	...	I	
1901.82	73.9	3.58	...	...	,,	
1901.79	73.4	3.63	2.5	...	I	2 n

A—C = New.

1901.79	335°±	25″±	3.4	...	I	2 n

Digitized by Google

Ref. Cat. 23h. No. 9. *h* 5387. MAG. 7.7
23h 7m 59s — 41° 28′.8.

1900.85	277°.4	7″.80	[1.2]	...	L	1 n

Fixed.

Ref. Cat. 23h. No. 13. Innes 143. 7.2
23h 9m 36s — 60° 14′.3.

1900.61	11°.5	2″.95	3.8	5, b	I	
1900.87	8.5	3.01	3.0	...	,,	
1900.90	8.3	2.76	3.8	5, b	,,	
1900.79	9.4	2.91	3.5	5, b	I	3 n

Error of reduction in angle as printed in the *M.N.R.A.S.*

Ref. Cat. 23h. No. 20. *h* 5392. 8.5
23h 12m 44s — 58° 50′.9.

1900.72	331°.3	20″.8	...	...	I	
1900.77	331.0	20.8	...	...	L	
1900.85	331.3	20.8	...	...	,,	
1900.78	331.2	20.8	[1.0]	...	Cape	3 n

Harvard Lac. 9444. 6.3
23h 14m 19s — 34° 15′.3.

1901.82	307°.0	43″.8	5.3	...	I	1 n

Difficult; interrupted by cloud; single distances.
Found at Arequipa:—

1899	320°±	20″±	6.8	...	Clymer 1 n

There is no material for a determination of the p.m.

Ref. Cat. 23h. No. 25. Dunlop 248. 6.1
23h 15m 13s — 50° 51′.1.

1901.82	210°.3	16″.9	[1.2]	...	I	1 n

Common proper motion of 0″.044 towards 154°.7.

Ref. Cat. 23h. No. 31. Innes 144. 8.2
23h 20m 13s — 43° 26′.9.

1900.61	181°.0	0″.88	0.2	...	I	
1900.87	179.6	0.71	0.5	...	,,	
1900.74	180.3	0.79	0.4	...	I	2 n

Common p.m. of 0″.10 towards 240°.4.

Ref. Cat. 23h. No. 37. Innes 23. MAG. 7.5
23h 22m 34s — 56° 59′.1.

1900.61	323°.5	0″.88	1.0	...	I	
1900.87	320.2	0.80	0.8	0, 0	,,	
1900.74	321.8	0.84	0.9	0, 0	I	2 n

Ref. Cat. 23h. No. 38. Innes 145. 8.7
23h 25m 20s — 58° 39′.8.

1900.61	108°.1	1″.85	0.3	...	I	
1900.87	110.3	1.44	0.3	...	,,	
1900.74	109.2	1.65	0.3	...	I	2 n

Ref. Cat. 23h. No. 40. Innes 25. 7.5
23h 29m 47s — 58° 2′.8.

1901.76	53°.6	0″.76	0.1	2, 2	I	
1901.82	54.9	0.76	...	...	,,	
1901.79	54.3	0.76	0.1	2, 2	I	2 n

Harvard. Lac. 9545. 6.9
23h 34m 38s — 47° 52′.8.

1901.82	68°.3	2″.16	2.5	2, B	I	
1901.92	64.4	1.96	3.5	2, B	,,	
1901.87	66.4	2.06	3.0	2, B	I	2 n

A very fine pair found by Mr Clymer at Arequipa. (Communicated by Prof. E. C. Pickering).
The p.m. is 0″.06 towards 260°.6.

Ref. Cat. 23h. No. 51. λ 494. 8.9
23h 36m 14s — 34° 44′.8.

1901.82	Not seen double				I	1 n

Ref. Cat. 23h. No. 56. Cordoba [67]. 9.0
23h 39m 29s — 45° 48′.1.

A—B.

1900.87	307°.3	4″.01	[0.7]	...	L	1 n

B—C.

1900.87	19°.0	23″.0	[2.3]	...	L	1 n

Digitized by Google

Cape 25. C.P.D. — 45°, 10,474. MAG. 8.2
23h 41m 27s — 45° 36′.8.

1900.61	166°.8	2″.63	0.2	...	I	
1900.67	168.0	2.32	0.3	...	,,	
1900.64	167.4	2.48	0.2	...	I	2 n

Ref. Cat. 23h. No. 60. Cordoba [68]. 8.1
23h 42m 10s — 61° 4.5.

1900.67	101°.0	5″.91	1.0	3, b	I	
1900.70	100.9	5.63	...	...	L	
1900.85	100.6	5.52	...	...	,,	
1900.74	100.8	5.69	1.0	3, b	Cape	3 n

Ref. Cat. 23h. No. 61. Innes 305. 6.9
23h 42m 49s — 51° 26′.7.

1900.72	123°.0	3″.22	5.1	2, b	I	
1900.84	123.2	3.65	...	...	,,	
1900.78	123.1	3.43	5.1	2, b	I	2 n

The p.m. of the chief star is 0″.12 towards 260°.6.

h 5428. Bris. 7341. MAG. 6.7
23h 48m 21s — 66° 30′.4

1900.90	114°.8	12″.2	5.3	...	I	1 n

Previously :—

1836.7	115.5	12″±	7.3	...	*h*	1 n

Common proper motion of 0″.12 towards 336°.5.

Ref. Cat. 23h. No. 66. Innes 146. 7.3
23h 49m 54s — 37° 55′.2.

1900.84	221°.9	0″.74	0.7	...	I	
1900.85	217.2	0.82	...	...	L	
1901.76	222.6	0.68	1.4	...	I	
1901.15	220.6	0.75	1.0	...	Cape	3 n

Ref. Cat. 23h. No. 70. λ 499. 8.1
23h 55m 4s — 40° 44′.9.

1901.76	1901.82	Not seen double			I	2 n

Digitized by Google

not rec'd 7.7.

ANNALS OF THE CAPE OBSERVATORY.

NEW YORK PUBLIC LIBRARY ASTOR, LENOX AND TILDEN FOUNDATIONS

VOL. II. PART V.

RESULTS

OF

MERIDIAN OBSERVATIONS

OF

THE SUN, MERCURY AND VENUS

MADE AT THE ROYAL OBSERVATORY, CAPE OF GOOD HOPE,

IN THE YEARS 1884 TO 1892,

UNDER THE DIRECTION OF

SIR DAVID GILL, K.C.B., LL.D., D.Sc., F.R.S., ETC.,

HIS MAJESTY'S ASTRONOMER AT THE CAPE OF GOOD HOPE.

Published by Order of the Lords Commissioners of the Admiralty in obedience to His Majesty's Command.

EDINBURGH:
PRINTED FOR HIS MAJESTY'S STATIONERY OFFICE
BY NEILL & CO., LIMITED, BELLEVUE.

And to be purchased, either directly or through any Bookseller, from
WYMAN & SONS, LIMITED, FETTER LANE, E.C.; or
OLIVER & BOYD, EDINBURGH; or
E. PONSONBY, 116 GRAFTON STREET, DUBLIN.

1907.

[*All Rights Reserved.*]

Price Three Shillings and Sixpence.

SEP 19 1907

Royal

Digitized by Google

Digitized by Google

ANNALS OF THE CAPE OBSERVATORY.

VOL. II. PART V.

RESULTS

OF

MERIDIAN OBSERVATIONS

OF

THE SUN, MERCURY AND VENUS

MADE AT THE ROYAL OBSERVATORY, CAPE OF GOOD HOPE,

IN THE YEARS 1884 TO 1892,

UNDER THE DIRECTION OF

SIR DAVID GILL, K.C.B., LL.D., D.Sc., F.R.S., ETC.,

HIS MAJESTY'S ASTRONOMER AT THE CAPE OF GOOD HOPE.

Published by Order of the Lords Commissioners of the Admiralty in obedience to His Majesty's Command.

EDINBURGH:
PRINTED FOR HIS MAJESTY'S STATIONERY OFFICE
BY NEILL & CO., LIMITED, BELLEVUE.

And to be purchased, either directly or through any Bookseller, from
WYMAN & SONS, LIMITED, FETTER LANE, E.C.; or
OLIVER & BOYD, EDINBURGH; or
E. PONSONBY, 116 GRAFTON STREET, DUBLIN.

1907.

[*All Rights Reserved.*]

Price Three Shillings and Sixpence.

Digitized by Google

Digitized by Google

CONTENTS.

	PAGE
INTRODUCTION	5D
Reflex. Observations	5D
Transit-Circle	5D
Observers	5D
Methods of Observing Transits	5D
Standard Stars	6D
Notes	6D
Observed R.A.	6D
Observed Declination	7D
Refraction	7D
Latitude	7D
Flexure	7D
Correction to Semi-diameter	7D
Defective Illumination	7D
Limbs observed	7D
Tabular R.A. and Dec.	7D
Comparison with Tables	8D
Grouping	8D
Weights	8D
Equations and Solution	8D
Personality due to Method of Observing	10D
DIAMETERS OF THE SUN	13D
OBSERVED AND TABULAR R.A. AND DEC. OF THE SUN	34D
OBSERVED AND TABULAR R.A. AND DEC. OF MERCURY	54D
OBSERVED AND TABULAR R.A. AND DEC. OF VENUS	66D
DAY-CORRECTIONS TO DECLINATION	83D

400—Wt. 30248—8/07.—N. & Co., Ltd.

Digitized by Google

Digitized by Google

INTRODUCTION.

THE observations contained herein were made at the request of Professor Simon Newcomb, and the results were used in the preparation of his Tables.

Many Reflex. observations were made, but have been rejected, as the adjustments of the instrument were disturbed by the sun shining on it; the observations retained are the *Direct* observations only.

The original intention was to publish the observations from 1884 to 1889, but subsequently those for 1890–1892 were incorporated.

THE TRANSIT-CIRCLE.

The instrument has been described in the volumes of *Meridian Observations*, and full details of alterations are given in those for 1882 to 1895.

OBSERVERS, &c.

The observers were:—

Mr W. H. Finlay (F), 1886–7.
Mr G. W. H. Maclear (M), 1884–92.
Mr R. T. Pett (P), 1884–92.
Mr W. H. Cox (C), 1884–92.
Mr R. Pillans (R), 1884.
Mr A. Pead (AP), 1890–92.
Mr R. Woodgate (W), 1891–2.
Mr A. Cochrane (AC), 1891–2.

The observations were made by the "Eye and Ear" method until 1889 June 2, and by the "Chronographic" after that date.

Digitized by Google

Standard Stars.

Newcomb's places of the following stars (*Astronomical Papers*, Vol. VIII. Part II.) were used for obtaining the Clock-error and Day-correction in Declination.

No.		Star.	No.		Star.	No.		Star.
Ref.	Newc.		Ref.	Newc.		Ref.	Newc.	
1	10	γ Pegasi	25	460	δ Canis Majoris	49	1030	δ Ophiuchi
2	15	ι Ceti	26	479	β Canis Minoris	50	1051	α Scorpii
3	39	β Ceti	27	492	α Canis Minoris	51	1063	ζ Ophiuchi
4	85	ϑ Ceti	28	496	β Geminorum	52	1092	η Ophiuchi
5	133	α Arietis	29	523	15 Argûs	53	1105	θ Ophiuchi
6	173	γ Ceti	30	567	ζ Hydræ	54	1123	α Ophiuchi
7	183	η Eridani	31	599	α Hydræ	55	1134	β Ophiuchi
8	189	α Ceti	32	642	α Leonis	56	1174	η Serpentis
9	221	ϵ Eridani	33	712	δ Leonis	57	1182	λ Sagittarii
10	251	γ Eridani	34	719	δ Crateris	58	1193	α Lyræ
11	288	α Tauri	35	744	β Leonis	59	1211	σ Sagittarii
12	320	ϵ Leporis	36	762	ϵ Corvi	60	1226	ζ Aquilæ
13	330	β Orionis	37	786	δ Corvi	61	1282	γ Aquilæ
14	342	γ Orionis	38	792	β Corvi	62	1286	α Aquilæ
15	343	β Tauri	39	817	δ Virginis	63	1308	θ Aquilæ
16	350	δ Orionis	40	821	ϵ Virginis	64	1320	α^2 Capricorni
17	361	ϵ Orionis	41	843	α Virginis	65	1407	β Aquarii
18	373	κ Orionis	42	893	α Boötis	66	1424	ϵ Pegasi
19	382	α Orionis	43	936	α Libræ	67	1428	δ Capricorni
20	412	μ Geminorum	44	967	β Libræ	68	1449	α Aquarii
21	427	γ Geminorum	45	987	α Coronæ Bor	69	1490	η Aquarii
22	434	α Canis Majoris	46	997	α Serpentis	70	1512	λ Aquarii
23	451	ϵ Canis Majoris	47	1012	δ Scorpii	71	1516	α Piscis Aust.
24	456	γ Canis Majoris	48	1017	β Scorpii	72	1525	α Pegasi

Printed Results.

The tabular part of the section "Diameters" needs no explanation. In the notes the following symbols are used :—

c, Cloudy.
d, Diffused.
f, Faint.
h, Hazy.
m, Foggy.
p, Poor or unsatisfactory.
s, Scarcely visible.
t, Tremulous.
u, Unsteady.

"Very" and "Extremely" are indicated by italic and capital letters respectively.

In the Ledgers of the Sun and planets the observed R.A. is reduced with Clock-error obtained from Newcomb's places of the Standard stars, the number of stars used is given in the column "Remarks."

Digitized by Google

When no day observations of stars were possible the Clock-error determined in the evening was adopted.

The Declinations are reduced with :—

(1) Pulkowa Refractions
(2) Latitude $-33^{\circ}\ 56'\ 3''{\cdot}5$
(3) Flexure $-0{\cdot}462$ sin Z.D. South. To 1885 Feb.
$-0{\cdot}341$ „ „ 1885 Dec. to 1889 Dec.
$-0{\cdot}303$ „ „ 1890 Jan. to 1892 Dec.

The following corrections were applied to the Tabular semi-diameters of the Sun when only one limb was observed.

Observers.	R.A.		Dec.	
	1884–89.	1890–92.	1884–89.	1890–92.
	s	s	"	"
F	− 0·02	...	− 0·37	...
M	− 0·08	− 0·01	+ 0·24	+ 0·99
P	− 0·05	− 0·06	− 0·03	− 0·54
C	+ 0·04	0·00	+ 0·44	− 0·01
AP	...	− 0·02	...	+ 0·25
W	...	+ 0·02	...	+ 0·88
AC	...	− 0·01	...	+ 0·48

The observations of Mercury and Venus are corrected for defect of illumination where necessary.

Both limbs of the Sun were observed except in the few cases in which I., II., N. or S. is printed in the column "Limbs" to signify that the first, second, north or south limb was observed.

The letters in the column "Remarks" have been explained above; the figures indicate the number of Standard Stars observed. The Day Correction is the correction applicable to the observed declination.

For the planets the limb observed is indicated as for the Sun, and "C" signifies that the estimated centre of light was observed.

The "Computed" Right Ascension and Declination are from Le Verrier's Tables.

Digitized by Google

Observations of the Sun.

Comparison with Le Verrier's Tables.

The star places to which the observations of the Sun were reduced were corrected to the system of Newcomb's Fundamental Catalogue.

The tabular co-ordinates of the Sun were derived from the Nautical Almanac, based on Le Verrier's tables.

The observations were combined in fortnightly groups, according to the following system of relative weights.

No. of Comparison Stars. / No. of Limbs Observed.	1	2	3	4	5	6	7	8
1	·33	·44	·50	·53	·55	·57	·58	·59
2	·50	·67	·75	·80	·83	·86	·88	·89

From each fortnightly group of observations, whether of R.A. or of declination, an equation of condition was formed, involving the following unknowns :—

γ a constant correction to the R.A. of all stars.
$d\odot$ the correction to the tabular longitude of the Sun.
$d\omega$ the correction to the adopted obliquity of the ecliptic.

The forms of these equations were as follows :—

$$\gamma + \cos\omega \sec^2\delta\, d\odot - \tan\delta \cos\alpha\, d\omega = \Delta\alpha.$$
$$\sin\omega \cos\alpha\, d\odot + \sin\alpha\, d\omega = \Delta\delta.$$

For combination of the R.A. observations with the declination observations, unit weight in R.A. (expressed in arc) and in declination were assumed to correspond, the relative weights depending on the number of observations, &c., being given by the above table.

Digitized by Google

Combining the equations thus formed for each year separately, the following results were at first derived :—

Year.	γ	Wt.	$d\odot$	Wt.	$d\omega$	Wt.
1884	+ 0".301	2·9	− 0".768	3·1	− 0".423	19·7
1885	− 1·364	0·1	+ 0·028	0·2	− 0·209	7·8
1886	+ 0·593	8·7	− 0·713	9·4	− 0·244	48·1
1887	+ 1·086	9·3	− 0·952	10·1	− 0·160	66·9
1888	+ 1·277	7·5	− 1·089	8·1	− 0·336	40·4
1889	− 0·145	5·2	− 0·121	5·6	− 0·295	30·7
1890	− 0·514	3·5	− 0·329	3·9	− 0·219	23·8
1891	− 1·381	5·0	+ 0·078	5·4	+ 0·002	29·9
1892	− 0·303	4·1	− 1·064	4·4	− 0·220	23·8.

The quantities here derived represent corrections to the assumed position of the plane of the ecliptic with reference to the equator as defined by Newcomb's system of stars, and to the mean longitude of the Sun in his orbit, the latter correction being assumed to be sensibly constant throughout the year.

The close agreement between the derived values of $d\omega$ and the considerable weight with which these are obtained, suggested that the material in hand might be advantageously used for a more comprehensive discussion, in which the eccentricity and perigee of the solar orbit as well as the node and inclination are submitted to examination.

Accordingly, in the expressions for $\Delta\alpha$, $\Delta\delta$ the following additional terms were now included :—

$$\Delta\alpha = \ldots + 2\frac{\sin\alpha}{\cos\delta}\,dh - 2\frac{\cos\alpha\cos\omega}{\cos\delta}\,dk$$

$$\Delta\delta = \ldots + 2\sin\delta\cos\alpha\,dh - 2\cos^2\alpha\cos\delta\sin\omega\,dk$$

where $h = e\cos\varpi$, $k = e\sin\varpi$.

For the years 1884 and 1887 a simultaneous least square solution of the equations of condition, involving the five unknowns

$$\gamma,\ d\odot,\ d\omega,\ dh,\ dk,$$

was made with the following results :—

	1884.	1887.
γ . . .	+ 0".307	+ 1".079
$d\odot$ . . .	− 0·822	− 0·944
$d\omega$ . . .	− 0·429	− 0·161
dh . . .	+ 0·181	− 0·159
dk . . .	+ 0·133	− 0·034.

These results indicate that the previously derived values are not materially altered by the introduction of the additional unknown quantities dh, dk. In fact, it is only on

Digitized by Google

account of the slight want of symmetry in the distribution of the observations that the separation of the two sets of unknown quantities is not complete. Consequently, for the remaining years it was considered sufficient to derive the values of dh, dk from the residuals from the previous solution, as follows :—

	dh	dk
	"	"
1886 . . .	+ 0·025	− 0·059
1888 . . .	+ 0·225	− 0·004
1889 . . .	+ 0·174	[− 0·552]
1890 . . .	+ 0·359	− 0·121
1891 . . .	+ 0·066	+ 0·163
1892 . .	+ 0·066	+ 0·001.

The observations for the year 1885 have been entirely rejected as inadequate for the separate determination of dh, dk, on account of the fact that they are grouped together within about two months of the year.

The observations for the year 1889 were at once seen to lead to anomalous values of dh, dk. On closer investigation it appeared that these anomalies were due to an apparent abrupt discontinuity in the observations of Right Ascension occurring about the middle of the year rather than to a true periodic inequality in the longitude.

A similar discontinuity in the value of γ as derived from the years previous and subsequent to 1889 confirmed the suggestion that the anomalies were to be explained by some instrumental change or change in the personnel of the observers. An examination of this point at once elicited the fact that the apparent discontinuity, so far as it was possible to precisely locate it, coincided exactly with the date in June 1889 when "eye and ear" methods of observation were replaced by "chronographic" registration.

Hence for the year 1889, two values, γ_1, γ_2, for γ were introduced, the former applicable to observations during the first half of the year, and the latter to those of the second half; a simultaneous solution of the equations of condition was now made for the six unknowns

$$\gamma_1,\ \gamma_2,\ d\odot,\ d\omega,\ dh,\ dk,$$

with the following results :—

		Wt.
	"	
γ_1 =	+ 0·916	3·9
γ_2 =	− 1·342	3·7
$d\odot$ =	− 0·039	5·3
$d\omega$ =	− 0·384	29·9
dh =	+ 0·242	111·4
dk =	+ 0·131	40·4.

Digitized by Google

It will be seen that the derived values of γ_1, γ_2 correspond very closely with those resulting from observations previous to 1889 and subsequent to 1889 respectively, indicating a considerable change in "personality" resulting from the change in method of observing.

To examine whether this change was a common effect shared by all observers, or whether due to the preponderating influence of an exceptional habit of some single observer, the computed places of the Sun were now corrected by the following quantities derived from the whole series of observations extending over the eight years :—

$$d\odot = +0''.67 + 0''.25 \sin \odot + 0''.05 \cos \odot$$
$$d\omega = -0.23,$$

or what is equivalent :—

$$\Delta\alpha = -0''.67 \cos\omega \sec^2\delta + 0''.23 \tan\delta \cos\alpha + 0.25 \sin\alpha \sec\delta - 0.05 \cos\alpha \cos\omega \sec\delta.$$

The values of the correction to the equinox derived from the observations of the separate observers in each year were then grouped together and simple means taken, with the following results :—

DERIVED VALUES OF THE CORRECTION TO THE EQUINOX.

(1) *Eye and Ear Methods.*

Observer.	P.	M.	C.	F.	R.
	s	s	s		s
1884 . . .	-0.011_{29}	$+0.053_{12}$	$+0.027_{27}$	...	$+0.060_{5}$
1885 . . .	$+ .033_{4}$	$+ .020_{9}$	$+ .075_{6}$	...	...
1886 . . .	$+ .017_{80}$	$+ .022_{46}$	$+ .072_{55}$	$+0.014_{19}$	...
1887 . . .	$+ .027_{13}$	$+ .014_{72}$	$+ .118_{68}$	$+ .014_{25}$	...
1888 . . .	$+ .009_{30}$	$+ .050_{44}$	$+ .094_{47}$	$+ .08$	...
1889 . . .	$- .010_{7}$	$+ .083_{15}$	$+ .132_{18}$	...	...
Mean . .	$+0.008_{113}$	$+0.032_{198}$	$+0.090_{221}$	$+0.016_{45}$	$+0.060_{5}$

(2) *Chronographic Method.*

Observer.	P.	M.	C.	W.	AP.	AC.
	s	s	s	s	s	s
1889 . .	-0.108_{12}	-0.027_{19}	-0.008_{28}	...	...	...
90 . .	$- .054_{11}$	$- .017_{14}$	$+ .002_{22}$	$+0.002_{5}$	-0.030_{10}	-0.014_{9}
91 . .	$- .121_{15}$	$- .035_{24}$	$- .014_{18}$	$- .054_{12}$	$- .029_{9}$	$- .004_{14}$
92 . .	$- .106_{14}$	$- .062_{6}$	$- .001_{21}$	$- .063_{13}$	$- .058_{15}$	$- .013_{4}$
Mean .	$- .100_{52}$	$- .031_{68}$	$- .005_{84}$	$- .049_{30}$	$- .042_{34}$	$- .009_{27}$

The suffixes indicate the number of observations on which each determination depends.

Digitized by Google

Each of the three observers, whose observations involve both methods, exhibits a strongly marked personality depending on the method of observing, while it would appear from the general accordance of the results obtained by other observers with those obtained by corresponding methods by these three observers that the effect is a general one to which all observers are subject to a greater or less degree. It follows that direct observations of the Sun can have but little value in determining the position of the equinox until some means can be devised for observing the right ascension of the Sun uninfluenced by personal errors. The most promising method would appear to be by the use of the Repsold travelling wire micrometer which has already been adopted for star observations with the new transit-circle at the Cape, and which, with the necessary modifications, it is hoped shortly to bring into use for an extended additional series of observations of the Sun.

DAVID GILL.

ROYAL OBSERVATORY, CAPE OF GOOD HOPE,
10*th October* 1906.

Digitized by Google

ROYAL OBSERVATORY, CAPE OF GOOD HOPE.

DIAMETERS, RIGHT ASCENSIONS AND DECLINATIONS

OF

THE SUN, MERCURY AND VENUS,

COMPARED WITH THE NAUTICAL ALMANAC

1884-1892.

Digitized by Google

Diameters of the Sun.

Date.		Observer.	Definition.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Notes.
1884.				m s	s	s	′ ″	″	″	
February	16	P	...	2 13·32	13·25	+ 0·07	32 30·05	26·60	+ 3·45	
	19	M	...	2 12·48	12·65	− 0·17	32 26·03	25·20	+ 0·83	
	22	R	...	2 11·85	12·07	− 0·22	32 21·64	23·80	− 2·16	
	25	C	...	2 11·45	11·53	− 0·08	32 26·09	22·40	+ 3·69	
	26	M	...	2 10·94	11·37	− 0·43	32 21·04	22·00	− 0·96	
March	10	P	...	2 9·73	9·67	+ 0·06	32 16·79	15·60	+ 1·19	
	12	R	...	2 9·33	9·48	− 0·15	32 13·89	14·60	− 0·71	
	15	C	...	2 9·33	9·26	+ 0·07	32 12·96	13·00	− 0·04	
	18	R	...	2 9·18	9·08	+ 0·10	32 10·72	11·20	− 0·48	
	20	R	...	...	...	...	32 8·60	10·20	− 1·60	
	22	M	...	2 8·91	8·94	− 0·03	32 9·06	9·00	+ 0·06	
	25	R	...	2 8·87	8·90	− 0·03	32 9·67	7·40	+ 2·27	
	27	C	...	2 8·72	8·90	− 0·18	32 7·29	6·20	+ 1·09	
	29	P	...	2 8·93	8·94	− 0·01	32 4·58	5·20	− 0·62	
April	1	C	...	2 8·98	9·02	− 0·04	32 6·75	3·40	+ 3·35	
	3	M	...	2 9·03	9·10	− 0·07	32 4·82	2·40	+ 2·42	
	5	M	...	...	...	...	32 1·85	1·40	+ 0·45	
	9	R	...	2 9·49	9·48	+ 0·01	31 59·60	59·20	+ 0·40	
	21	M	...	2 10·64	10·73	− 0·09	31 54·46	52·60	+ 1·86	
	23	P	...	2 10·89	11·01	− 0·12	31 51·07	51·60	− 0·53	
	25	M	...	2 10·98	11·29	− 0·31	31 48·41	50·60	− 2·19	
	29	M	...	2 11·69	11·87	− 0·18	31 47·93	48·80	− 0·87	
May	1	P	...	2 11·85	12·19	− 0·34	31 46·12	47·80	− 1·68	
	8	M	...	2 13·19	13·33	− 0·14	31 43·20	44·60	− 1·40	
	13	C	...	2 13·97	14·15	− 0·18	31 45·53	42·60	+ 2·93	
	28	C	...	2 16·36	16·39	− 0·03	31 40·70	37·20	+ 3·50	
June	7	C	...	2 17·30	17·44	− 0·14	31 35·13	34·80	+ 0·33	
	10	P	...	2 17·46	17·64	− 0·18	31 33·53	34·20	− 0·67	
	13	C	...	2 17·91	17·80	+ 0·11	31 35·21	33·60	+ 1·61	
	18	C	...	2 17·82	17·92	− 0·10	31 31·53	32·80	− 1·27	
	23	C	...	2 17·96	17·88	+ 0·08	31 32·44	32·20	+ 0·24	
	25	P	...	2 17·76	17·82	− 0·06	31 31·74	32·20	− 0·46	
	30	C	...	2 17·61	17·56	+ 0·05	31 31·96	32·00	− 0·04	
July	3	P	...	2 16·86	17·34	− 0·48	...	...	...	
	5	C	...	2 17·07	17·17	− 0·10	31 33·78	32·00	+ 1·78	
	14	M	...	...	...	...	31 33·47	32·60	+ 0·87	
	16	P	...	2 15·58	15·81	− 0·23	31 32·28	32·80	− 0·52	
	28	P	3–4	2 13·62	13·85	− 0·23	31 32·42	34·80	− 2·38	T.
	30	C	...	...	...	...	31 38·99	35·40	+ 3·59	
August	1	P	...	2 12·97	13·17	− 0·20	31 36·28	36·00	+ 0·28	
	5	C	...	2 12·37	12·47	− 0·10	31 38·38	37·00	+ 1·38	

Digitized by Google

Date.		Observer.	Definition.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Notes.
1884.				m s	s	s	′ ″	″	″	
August	7	C	...	2 11·94	12·13	− 0·19	31 37·42	37·60	− 0·18	
	9	C	...	2 11·76	11·81	− 0·05	31 40·37	38·20	+ 2·17	
	12	P	...	2 11·08	11·31	− 0·23	31 38·20	39·20	− 1·00	
	14	P	...	2 10·80	10·99	− 0·19	31 40·42	40·00	+ 0·42	
	16	C	...	2 10·74	10·69	+ 0·05	31 44·22	40·60	+ 3·62	
	19	C	...	...	...	...	31 42·19	41·80	+ 0·39	
	23	C	3	2 9·76	9·76	+ 0·05	31 44·64	43·40	+ 1·24	d.
	28	C	...	2 9·27	9·13	+ 0·14	31 46·78	45·60	+ 1·18	
September	8	C	3	...	...	...	31 49·94	50·80	− 0·86	d.
	12	P	...	2 7·83	8·14	− 0·31	31 51·65	52·80	− 1·15	
	16	C	...	2 8·16	8·08	+ 0·08	31 58·09	54·80	+ 3·29	
	19	C	...	2 8·15	8·10	+ 0·05	...	...	...	
	29	P	3–4	2 8·38	8·58	− 0·20	32 1·03	1·80	− 0·77	T,c.
October	2	C	...	2 8·88	8·84	+ 0·04	32 6·18	3·60	+ 2·58	
	6	C	...	2 9·50	9·27	+ 0·23	32 8·22	5·80	+ 2·42	
	17	P	...	...	...	...	32 10·22	11·80	− 1·58	
	21	P	3–4	2 11·46	11·65	− 0·19	32 12·74	13·80	− 1·06	t,c.
	23	P	2–3	2 11·80	12·05	− 0·25	32 14·75	15·00	− 0·25	
	27	P	3–4	2 12·74	12·89	− 0·15	32 18·13	17·00	+ 1·13	T.
	29	P	3–4	2 13·16	13·33	− 0·17	32 17·19	18·20	− 1·01	*p.*
November	3	C	...	2 14·69	14·49	+ 0·20	32 22·53	20·60	+ 1·93	
	4	P	...	2 14·66	14·71	− 0·05	32 20·67	21·20	− 0·53	
	17	P	...	2 17·53	17·79	− 0·26	32 27·34	26·80	+ 0·54	
	21	P	...	...	...	...	32 28·86	28·40	+ 0·46	
	25	P	3–4	2 19·48	19·55	− 0·07	32 27·92	29·80	− 1·88	c.
December	1	P	3–4	2 20·68	20·67	+ 0·01	32 32·09	31·80	+ 0·29	
	4	P	3–4	2 21·17	21·15	+ 0·02	32 34·92	32·60	+ 2·32	T.
	6	P	...	2 21·40	21·45	− 0·05	32 32·74	33·20	− 0·46	
	8	C	...	2 21·91	21·71	+ 0·29	32 35·30	33·60	+ 1·70	
	9	P	...	2 21·60	21·83	− 0·23	32 31·89	33·80	− 1·91	
	10	C	...	...	...	...	32 36·54	34·00	+ 2·54	
	13	M	...	2 21·99	22·22	− 0·23	32 34·20	34·60	− 0·40	
	17	M	2–3	...	...	...	32 34·66	35·20	− 0·54	u.
	18	C	...	2 22·30	22·50	− 0·20	32 39·38	35·40	+ 3·98	
	19	P	3–4	2 22·62	22·54	+ 0·08	32 37·00	35·60	+ 1·40	T.
	23	M	...	2 22·54	22·56	− 0·02	32 33·42	36·00	− 2·58	
	29	C	...	2 22·56	22·34	+ 0·22	32 37·06	36·40	+ 0·66	
	30	M	...	2 22·25	22·26	− 0·01	32 36·35	36·40	− 0·05	
1885.										
January	7	P	3–4	2 21·26	21·41	− 0·15	32 36·83	36·20	+ 0·65	T.
	14	M	...	2 20·12	20·27	− 0·15	32 34·28	35·40	− 1·12	
	16	C	3–4	2 20·17	19·91	+ 0·26	32 40·13	35·20	+ 4·93	*d.*
	17	M	...	2 19·38	19·71	− 0·33	32 33·51	35·00	− 1·49	
	20	M	3–4	2 19·10	19·11	− 0·01	32 29·70	34·40	− 4·70	
	22	C	...	2 18·65	18·67	− 0·02	32 36·77	34·00	+ 2·77	
	23	M	...	2 18·23	18·45	− 0·22	32 31·73	33·80	− 2·07	

Digitized by Google

Date.		Observer.	Definition.	Diameter.		Corr. to N.A.	Diameter.		Corr. to N.A.	Notes.
				Observed.	N.A.		Observed.	N.A.		
1885.				m s	s	s	′ ″	″	″	
January	26	P	...	2 17·75	17·79	− 0·04	32 32·83	33·20	− 0·37	
	29	C	...	2 16·89	17·11	− 0·22	32 34·48	32·40	+ 2·08	
	31	M	3–4	2 16·25	16·65	− 0·40	32 31·44	31·80	− 0·36	d.
December	1	M	3–4	2 20·24	20·63	− 0·39	32 32·51	31·60	+ 0·91	T,D.
	8	P	3–4	2 21·97	21·67	+ 0·39	32 38·97	33·40	+ 5·57	*t*,p.
	14	M	...	2 22·23	22·28	− 0·05	32 37·15	34·80	+ 2·35	
	16	P	3–4	2 22·55	22·40	+ 0·15	32 37·98	35·20	+ 2·78	F.
	18	C	...	2 22·42	22·50	− 0·08	32 38·23	35·40	+ 2·83	
	22	C	3–4	2 22·72	22·56	+ 0·16	32 37·55	36·00	+ 1·55	*d.*
	23	M	...	2 22·51	22·56	− 0·05	32 36·22	36·00	+ 0·22	
	28	M	...	2 22·49	22·40	+ 0·09	32 36·78	36·40	+ 0·38	
	30	C	...	2 22·26	22·28	− 0·02	32 34·05	36·40	− 2·35	
1886.										
January	4	C	...	2 21·97	21·81	+ 0·16	32 36·54	36·20	+ 0·34	
	6	P	...	2 21·80	21·57	+ 0·23	32 37·31	36·20	+ 1·11	
	7	M	...	2 21·24	21·43	− 0·19	32 34·86	36·20	− 1·34	
	12	P	...	2 20·82	20·67	+ 0·15	32 34·57	35·80	− 1·23	
	13	M	...	...	...	...	32 42·52	35·60	+ 6·92	
	15	P	3–4	2 20·27	20·13	+ 0·14	32 40·73	35·40	+ 5·33	
	19	P	3–4	2 19·34	19·35	− 0·01	32 35·46	34·80	+ 0·66	T.
	21	C	...	2 19·08	18·95	+ 0·13	32 35·48	34·40	+ 1·08	
	23	M	...	2 18·57	18·51	+ 0·06	32 30·78	34·00	− 3·22	
	30	C	...	2 16·97	16·93	+ 0·04	32 34·17	32·20	+ 1·97	
February	1	P	...	...	...	...	32 31·19	31·60	− 0·41	
	4	C	3–4	2 15·85	15·79	+ 0·06	32 34·00	30·60	+ 3·40	
	6	M	...	2 15·15	15·33	− 0·18	32 31·85	30·00	+ 1·85	
	8	C	...	2 15·09	14·87	+ 0·22	...	...	...	
	10	P	...	2 14·52	14·43	+ 0·09	32 29·65	28·60	+ 1·05	
	11	C	...	2 13·93	14·21	− 0·28	32 33·03	28·20	+ 4·83	
	18	F	3–4	...	...	...	32 29·33	25·40	+ 3·93	*u.*
	22	P	...	2 11·92	11·99	− 0·07	32 24·11	23·60	+ 0·51	
	23	C	...	2 12·08	11·81	+ 0·27	32 29·62	23·20	+ 6·42	
	24	F	3–4	2 11·88	11·63	+ 0·25	32 28·02	22·80	+ 5·22	*u.*
	26	P	...	...	...	...	32 22·26	21·80	+ 0·46	
	27	M	...	2 11·05	11·13	− 0·08	32 22·00	21·20	+ 0·80	
March	1	C	...	2 10·99	10·81	+ 0·18	32 22·67	20·20	+ 2·47	
	2	F	...	2 10·72	10·67	+ 0·05	32 19·82	19·80	+ 0·02	
	3	P	3–4	2 10·57	10·53	+ 0·04	32 24·08	19·20	+ 4·88	
	4	M	...	2 10·18	10·41	− 0·23	32 21·29	18·80	+ 2·49	
	5	M	...	2 10·20	10·27	− 0·07	32 19·89	18·20	+ 1·69	
	10	F	3–4	2 9·62	9·71	− 0·09	32 15·98	15·80	+ 0·18	u.
	11	C	...	2 9·83	9·61	+ 0·22	32 17·15	15·20	+ 1·95	
	16	P	...	2 9·07	9·22	− 0·15	32 12·37	12·60	− 0·23	
	17	C	2	2 9·08	9·16	− 0·08	32 13·39	12·00	+ 1·39	
	18	F	...	2 9·18	9·10	+ 0·08	32 9·10	11·60	− 2·50	
	20	C	...	2 8·98	9·02	− 0·04	32 11·05	10·40	+ 0·65	
	22	C	3	2 9·12	8·94	+ 0·18	32 9·63	9·40	+ 0·23	

Digitized by Google

Date.		Observer.	Definition.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Notes.
1886.				m s	s	s	′ ″	″	″	
March	23	P	...	2 9·07	8·92	+ 0·15	32 10·92	8·80	+ 2·12	*t.*
	24	F	...	2 8·91	8·92	− 0·01	32 6·38	8·20	− 1·82	
	25	M	3	2 8·75	8·90	− 0·15	32 6·73	7·60	− 0·87	
	26	C	...	2 8·97	8·90	+ 0·07	32 9·62	7·00	+ 2·62	
	29	M	3–2	2 8·85	8·92	− 0·07	32 7·04	5·40	+ 1·64	
	31	P	...	2 8·86	8·96	− 0·10	32 4·09	4·20	− 0·11	
April	1	M	2–3	2 8·88	9·00	− 0·12	32 4·47	3·80	+ 0·67	
	2	F	...	2 9·06	9·02	+ 0·04	32 1·27	3·20	− 1·93	
	5	F	...	2 9·20	9·16	+ 0·04	32 2·83	1·40	+ 1·43	
	6	M	4–3	2 9·11	9·22	− 0·11	32 1·90	1·00	+ 0·90	T.
	7	C	3–4	2 9·54	9·28	+ 0·26	32 1·62	0·40	+ 1·22	
	8	P	...	2 9·27	9·36	− 0·09	31 61·20	59·80	+ 1·40	
	9	M	...	2 9·20	9·44	− 0·24	31 61·20	59·40	+ 1·80	
	10	C	...	...	...	...	31 58·16	58·80	− 0·64	
	12	M	...	2 9·38	9·68	− 0·30	31 57·43	57·80	− 0·37	c.
	14	P	...	2 9·70	9·87	− 0·17	31 58·60	56·60	+ 2·00	
	15	C	...	2 10·20	9·97	+ 0·23	31 57·21	56·20	+ 1·01	
	19	P	...	2 10·34	10·43	− 0·09	31 54·39	54·00	+ 0·39	
	20	M	...	2 10·44	10·55	− 0·11	31 56·68	53·60	+ 3·08	
	21	C	...	2 10·67	10·67	0·00	31 54·79	53·00	+ 1·79	
	22	F	...	2 10 80	10·81	− 0·01	31 52·33	52·60	− 0·27	
	24	M	3	2 10·98	11·07	− 0·09	31 53·26	51·40	+ 1·86	
	27	C	3	2 11·62	11·51	+ 0·11	31 48·73	50·00	− 1·27	
	30	M	3–4	2 11·74	11·97	− 0·23	31 52·22	48·40	+ 3·82	
May	10	C	2	2 13·51	13·57	− 0·06	31 42·40	44·00	− 1·60	*f*,c.
	12	F	...	2 13·62	13·91	− 0·29	31 41·38	43·20	− 1·82	
	13	P	3–4	2 14·06	14·07	− 0·01	31 45·01	42·80	+ 2·21	
	14	C	3–4	2 14·40	14·23	+ 0·17	31 44·87	42·40	+ 2·47	
	15	M	3	...	...	...	31 40·21	42·00	− 1·79	m.
	20	P	3	2 15·10	15·19	− 0·09	31 41·57	40·20	+ 1·37	
	21	F	...	2 15·08	15·33	− 0·25	31 38·51	39·80	− 1·29	
	25	M	2	2 15·68	15·91	− 0·23	31 38·76	38·40	+ 0·36	
June	1	C	2	2 16·94	16·81	+ 0·13	31 36·70	36·20	+ 0·50	
	7	P	2	2 17·41	17·40	+ 0·01	31 34·53	34·80	− 0·27	
	9	C	...	2 17·35	17·56	− 0·21	31 34·50	34·40	+ 0·10	
	11	C	...	2 17·59	17·68	− 0·09	...	...	...	
	15	P	2–3	2 17·64	17·86	− 0·22	31 31·58	33·40	− 1·82	
	17	F	...	2 17·92	17·90	+ 0·02	...	...	...	
	19	C	2	2 17·85	17·94	− 0·09	31 32·75	32·80	− 0·05	c.
	24	P	3	2 17·70	17·88	− 0·18	31 30·47	32·40	− 1·93	*f*,c.
	26	M	2	2 17·47	17·82	− 0·35	31 30·70	32·20	− 1·50	
	29	C	2	2 17·74	17·66	+ 0·08	31 31·22	32·00	− 0·78	
July	5	M	...	2 16·98	17·20	− 0·22	31 31·38	32·00	− 0·62	
	7	F	...	2 16·90	17·01	− 0·11	31 32·55	32·00	+ 0·55	
	9	M	3–4	2 16·46	16·79	− 0·33	31 33·61	32·20	+ 1·41	T.
	10	P	...	2 16·53	16·67	− 0·14	31 31·42	32·20	− 0·78	
	13	M	3–4	...	...	...	31 34·40	32·60	+ 1·80	T.

Digitized by Google

Date.		Observer.	Definition.	Diameter.		Corr. to N.A.	Diameter.		Corr. to N.A.	Notes.
				Observed.	N.A.		Observed.	N.A.		
1886.				m s	s	s	′ ″	″	″	
July	15	P	...	2 15·97	16·03	− 0·06	31 33·80	32·80	+ 1·00	
	17	F	...	2 15·64	15·73	− 0·09	31 31·53	33·00	− 1·47	
	22	C	3–4	2 14·85	14·95	− 0·10	31 34·60	33·80	+ 0·80	
	24	M	3	2 14·56	14·63	− 0·07	31 36·54	34·00	+ 2·54	d.
	26	P	...	2 14·23	14·29	− 0·06	31 35·86	34·40	+ 1·46	
	28	C	3–4	2 14·08	13·95	+ 0·13	31 40·21	34·80	+ 5·41	
	30	F	...	2 13·58	13·61	− 0·03	31 32·64	35·20	− 2·56	
	31	C	...	2 13·52	13·43	+ 0·09	31 38·20	35·40	+ 2·80	
August	2	C	...	2 13·02	13·09	− 0·07	31 35·84	36·00	− 0·16	
	3	M	3–4	2 13·08	12·91	+ 0·17	31 38·97	36·20	+ 2·77	T.
	4	P	3	2 12·66	12·73	− 0·07	31 35·98	36·60	− 0·62	
	5	C	...	2 12·55	12·57	− 0·02	31 36·60	36·80	− 0·20	
	11	M	3	2 11·18	11·55	− 0·37	31 38·62	38·80	− 0·18	
	12	C	...	2 11·50	11·39	+ 0·11	31 38·67	39·20	− 0·53	
	13	F	...	2 11·09	11·23	− 0·14	31 37·16	39·40	− 2·24	
	19	C	...	2 10·26	10·31	− 0·05	31 41·45	41·60	− 0·15	
	20	M	3	2 10·00	10·17	− 0·17	31 41·60	42·00	− 0·40	u.
	21	F	...	2 9·96	10·03	− 0·07	31 41·30	42·40	− 1·10	
September	1	C	3–4	2 8·79	8·79	0·00	31 49·00	47·00	+ 2·00	
	4	M	3	2 8·28	8·56	− 0·28	31 47·37	48·60	− 1·23	t.
	8	P	...	2 8·20	8·30	− 0·10	31 51·28	50·60	+ 0·68	
	10	M	2–3	2 8·10	8·22	− 0·12	31 52·32	51·60	+ 0·72	
	16	P	...	...	...	...	31 53·53	54·60	− 1·07	
	18	C	3–4	2 8·00	8·08	− 0·08	31 57·98	55·60	+ 2·38	
	20	P	...	2 8·10	8·12	− 0·02	31 57·10	56·60	+ 0·50	
	21	M	3–4	2 7·76	8·14	− 0·38	31 55·44	57·20	− 1·76	
	25	M	2–3	2 8·16	8·30	− 0·14	31 61·33	59·40	+ 1·93	
	27	M	3–4	2 8·36	8·42	− 0·06	32 1·67	0·40	+ 1·27	
	28	P	...	2 8·43	8·48	− 0·05	32 1·39	1·00	+ 0·39	
	29	M	3	2 8·54	8·54	0·00	32 4·29	1·60	+ 2·69	
	30	C	...	2 8·74	8·62	+ 0·12	31 59·94	62·00	− 2·06	
October	4	C	2–3	2 9·06	8·99	+ 0·07	32 5·15	4·40	+ 0·75	c.
	5	P	...	2 8·97	9·09	− 0·12	32 4·81	4·80	+ 0·01	
	6	C	...	2 9·38	9·21	+ 0·17	32 4·60	5·40	− 0·80	
	7	M	3	...	...	...	32 6·16	6·00	+ 0·16	
	12	C	...	...	...	...	32 9·66	8·80	+ 0·86	c.
	20	C	...	2 11·28	11·37	− 0·09	32 13·77	13·20	+ 0·57	
	27	M	3–4	2 12·66	12·79	− 0·13	32 16·37	16·80	− 0·43	
November	1	C	3–4	2 13·88	13·89	− 0·01	32 19·63	19·40	+ 0·23	f,c.
	3	C	3–4	2 14·46	14·37	+ 0·09	32 24·75	20·40	+ 4·35	p.
	6	M	...	2 14·94	15·07	− 0·13	32 22·13	21·80	+ 0·33	
	8	M	3–4	2 15·51	15·55	− 0·04	32 23·41	22·80	+ 0·61	d.
	9	C	...	2 15·89	15·79	+ 0·10	32 24·99	23·20	+ 1·79	
	12	M	3	2 16·22	16·51	− 0·29	32 24·91	24·60	+ 0·31	
	13	C	4–3	2 16·84	16·73	+ 0·11	32 27·87	25·00	+ 2·87	
	15	C	...	2 17·08	17·21	− 0·13	32 26·18	25·80	+ 0·38	
	16	M	3–4	2 17·23	17·45	− 0·22	32 28·36	26·20	+ 2·16	

Digitized by Google

Date.		Observer.	Definition.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Notes.
1886.				m s	s	s	′ ″	″	″	
November	17	C	...	2 17·77	17·67	+ 0·10	32 26·35	26·60	− 0·25	
	22	F	...	2 18·87	18·81	+ 0·06	32 28·97	28·60	+ 0·37	
	23	C	3-4	2 19·20	19·03	+ 0·17	32 31·62	28·80	+ 2·82	p.
	24	M	3-4	2 19·34	19·23	+ 0·11	32 32·61	29·20	+ 3·41	
	26	M	...	2 19·56	19·65	− 0·09	32 29·77	30·00	− 0·23	
	27	C	3-4	2 19·98	19·85	+ 0·13	32 32·76	30·20	+ 2·56	c.
	29	M	3-4	2 20·36	20·25	+ 0·11	32 33·35	31·00	+ 2·35	*t,d.*
	30	C	...	2 20·96	20·43	+ 0·53	32 32·78	31·20	+ 1·58	
December	1	F	3	2 20·68	20·61	+ 0·07	32 30·28	31·60	− 1·32	
	2	C	3-4	2 20·80	20·77	+ 0·03	32 33·04	31·80	+ 1·24	*d.*
	3	M	3-4	2 20·78	20·95	− 0·17	33 33·29	32·20	+ 1·09	
	6	P	3-2	2 21·28	21·39	− 0·11	32 37·13	33·00	+ 4·13	
	7	C	3-4	2 21·80	21·51	+ 0·29	32 36·83	33·20	+ 3·63	
	8	M	3-4	2 21·48	21·63	− 0·15	32 34·22	33·60	+ 0·62	
	11	C	3-4	2 22·46	21·97	+ 0·49	32 38·23	34·20	+ 4·03	
	13	M	3-4	2 21·86	22·17	− 0·31	32 37·67	34·60	+ 3·07	*d,t.*
	14	P	...	...	...	...	32 35·35	34·80	+ 0·55	
	15	M	3-4	2 22·20	22·32	− 0·12	32 36·66	35·00	+ 1·66	t.
	16	C	3-4	2 22·58	22·38	+ 0·20	32 38·21	35·00	+ 3·21	
	17	M	3	2 22·31	22·44	− 0·13	32 36·28	35·20	+ 1·08	
	20	C	...	2 22·62	22·54	+ 0·08	32 37·95	35·60	+ 2·35	
	21	M	...	2 22·28	22·56	− 0·28	32 36·40	35·60	+ 0·80	f,c.
	24	C	3-4	2 23·00	22·56	+ 0·44	32 37·81	36·00	+ 1·81	D.
	28	C	3-4	2 22·31	22·42	− 0·11	32 39·29	36·20	+ 3·09	c.
	29	P	3-4	...	...	...	32 36·91	36·20	+ 0·71	
1887.										
January	6	M	3-4	2 21·52	21·61	− 0·09	32 36·08	36·40	− 0·32	
	7	C	...	2 21·24	21·47	− 0·23	32 40·34	36·20	+ 4·14	
	8	P	...	2 21·40	21·33	+ 0·07	32 36·57	36·20	+ 0·37	
	11	C	3	2 21·11	20·89	+ 0·22	32 39·14	36·00	+ 3·14	
	12	F	...	2 20·86	20·71	+ 0·15	32 34·87	35·80	− 0·93	
	13	P	3-4	...	...	...	32 35·48	35·60	− 0·12	
	14	M	3-4	2 20·11	20·37	− 0·26	32 39·62	35·60	+ 4·02	*p.*
	15	C	...	2 20·44	20·19	+ 0·25	32 36·23	35·40	+ 0·83	
	18	M	3-4	2 19·38	19·61	− 0·23	32 38·07	35·00	+ 3·07	*t.*
	19	C	...	2 19·02	19·41	− 0·39	32 37·07	34·80	+ 2·27	
	21	C	3-4	2 19·19	18·99	+ 0·20	32 38·30	34·40	+ 3·90	
	27	P	3-4	2 17·64	17·67	− 0·03	32 35·43	33·00	+ 2·43	
	29	C	...	2 17·13	17·21	− 0·08	32 32·39	32·40	− 0·01	
	31	F	...	2 16·67	16·75	− 0·08	32 29·49	32·00	− 2·51	
February	1	C	3-4	2 16·68	16·51	+ 0·17	32 34·81	31·60	+ 3·21	
	2	M	3-4	2 16·16	16·29	− 0·13	32 31·93	31·40	+ 0·53	
	3	C	...	2 16·18	16·05	+ 0·13	32 34·45	31·00	+ 3·45	
	4	P	...	2 15·55	15·83	− 0·28	32 32·91	30·80	+ 2·11	
	7	M	3-4	2 15·17	15·15	+ 0·02	32 32·31	29·80	+ 2·51	
	8	P	2-3	2 14·88	14·93	− 0·05	32 28·99	29·40	− 0·41	
	9	M	...	2 14·63	14·69	− 0·06	32 30·84	29·00	+ 1·84	*t.*
	10	F	...	2 14·50	14·47	+ 0·03	32 27·64	28·60	− 0·96	

Digitized by Google

Date.		Observer.	Definition.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Notes.
1887.				m s	s	s	′ ″	″	″	
February	15	C	2	2 13·46	13·41	+ 0·05	32 25·10	26·80	− 1·70	c.
	17	F	3	2 12·95	12·99	− 0·04	32 25·77	25·80	− 0·03	
	18	M	3	2 12·67	12·79	− 0·12	32 26·37	25·40	+ 0·97	*d,t.*
	19	C	...	2 12·77	12·59	+ 0·18	32 28·86	25·00	+ 3·86	
	24	M	3–4	2 11·48	11·67	− 0·19	32 24·46	22·80	+ 1·66	*d.*
	25	C	3–4	2 11·93	11·49	+ 0·44	32 25·87	22·40	+ 3·47	
	26	F	...	2 11·44	11·33	+ 0·11	32 26·97	21·80	+ 5·17	
March	3	F	...	2 10·55	10·57	− 0·02	32 18·78	19·40	− 0·62	
	5	C	...	2 10·44	10·31	+ 0·13	32 22·24	18·60	+ 3·64	
	9	C	...	2 10·09	9·85	+ 0·24	32 19·17	16·40	+ 2·77	
	10	M	3–4	2 9·65	9·75	− 0·10	32 17·85	16·00	+ 1·85	*t.*
	11	C	3–4	2 9·90	9·65	+ 0·25	32 19·26	15·40	+ 3·86	
	14	F	...	2 9·52	9·38	+ 0·14	32 12·88	13·80	− 0·92	c.
	16	M	3–4	2 9·21	9·24	− 0·03	32 14·63	12·80	+ 1·83	
	21	C	...	2 9·16	8·98	+ 0·18	32 12·15	10·00	+ 2·15	
	22	M	...	2 8·78	8·96	− 0·18	32 9·39	9·40	− 0·01	
	23	M	3–4	2 8·63	8·94	− 0·31	32 11·27	8·80	+ 2·47	*d,t.*
	26	F	...	2 8·82	8·90	− 0·08	32 8·15	7·20	+ 0·95	
	28	M	3–4	2 8·77	8·90	− 0·13	32 7·48	6·00	+ 1·48	
	29	C	...	2 9·47	8·92	+ 0·55	32 7·50	5·60	+ 1·90	
	30	P	...	2 8·88	8·94	− 0·06	32 6·53	5·00	+ 1·53	
April	4	C	3–4	2 9·26	9·10	+ 0·16	32 4·95	2·40	+ 2·55	
	5	M	3	2 9·00	9·16	− 0·16	32 1·70	1·80	− 0·10	
	7	M	3–4	2 9·19	9·28	− 0·09	32 2·13	0·60	+ 1·53	*d.*
	9	P	3	2 9·38	9·42	− 0·04	31 60·33	59·60	+ 0·73	
	12	P	3	2 9·63	9·66	− 0·03	31 57·39	58·00	− 0·61	
	14	C	2–3	2 9·81	9·85	− 0·04	31 59·05	56·80	+ 2·25	
	16	F	3–4	2 10·19	10·05	+ 0·14	31 55·52	55·80	− 0·28	c.
	22	C	...	2 10·92	10·77	+ 0·15	31 54·74	52·60	+ 2·14	
	23	M	...	2 10·59	10·91	− 0·32	31 51·08	52·00	− 0·92	c.
	25	M	3	2 10·94	11·19	− 0·25	31 50·29	51·00	− 0·71	
	28	F	...	2 11·48	11·61	− 0·13	31 49·72	49·60	+ 0·12	
	29	M	3	2 11·57	11·77	− 0·20	31 49 01	49·20	− 0·19	
	30	C	2	2 11·88	11·91	− 0·03	31 48·58	48·60	− 0·02	
May	3	M	2	2 12·10	12·39	− 0·29	31 48·89	47·20	+ 1·69	
	9	M	...	2 13·42	13·37	+ 0·05	...	...	...	
	10	C	...	2 13 73	13·53	+ 0·20	31 45·65	44·20	+ 1·45	
	11	M	3	2 13·38	13·71	− 0·33	31 43·83	43·80	+ 0·03	
	12	C	2	2 14·07	13·87	+ 0·20	31 43·40	43·40	0·00	
	13	M	3	2 13·91	14·03	− 0·12	31 45·75	43·00	+ 2·75	
	14	F	...	2 14·24	14·19	+ 0·05	31 39·72	42·60	− 2·88	
	16	F	2–3	2 14·48	14·51	− 0·03	31 37·52	41·60	− 4·08	
	20	C	2	2 15·33	15·15	+ 0·18	31 38·49	40·20	− 1·71	
	21	M	2	2 15·19	15·31	− 0·12	31 42·20	39·80	+ 2·40	
	25	M	2–3	2 15 84	15·89	− 0·05	31 39·20	38·40	+ 0·80	
	27	M	2	2 16·09	16·17	− 0·08	31 38·77	37·80	+ 0·97	
	28	C	2	2 16·20	16·29	− 0·09	31 36·04	37·40	− 1·36	
	31	M	1–2	2 16·22	16·67	− 0·45	31 35·75	36·60	− 0·85	

Digitized by Google

Date.		Observer.	Definition.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Notes.
1887.				m s	s	s	′ ″	″	″	
June	3	C	...	2 16·97	17·01	− 0·04	31 35·99	35·80	+ 0·19	
	4	P	2–3	2 16·89	17·11	− 0·22	31 34·45	35·60	− 1·15	
	6	M	3–2	2 17·00	17·29	− 0·29	31 35·69	35·20	+ 0·49	
	7	C	3	2 17·82	17·38	+ 0·44	31 36·84	35·00	+ 1·84	
	8	M	3–4	2 17·44	17·46	− 0·02	31 35·85	34·80	+ 1·05	T.
	9	C	...	2 17·78	17·54	+ 0·24	31 36·54	34·60	+ 1·94	
	10	P	2–3	2 17·52	17·60	− 0·08	31 31·75	34·20	− 2·45	
	13	C	2	2 17·84	17·76	+ 0·08	31 33·58	33·80	− 0·22	
	14	M	2	2 17·48	17·80	− 0·32	31 31·23	33·60	− 2·37	
	16	F	...	2 17·84	17·88	− 0·04	31 32·18	33·20	− 1·02	
	17	C	...	2 17·81	17·90	− 0·09	31 31·48	33·00	− 1·52	
	18	M	2	2 17·86	17·92	− 0·06	31 33·94	32·80	+ 1·14	
	20	C	2	2 18·10	17·94	+ 0·16	31 32·24	32·60	− 0·36	
	22	M	...	2 17·68	17·92	− 0·24	31 32·46	32·40	+ 0·06	
	23	F	...	2 17·78	17·90	− 0·12	31 31·28	32·40	− 1·12	
	25	M	3	2 17·65	17·86	− 0·21	31 33·11	32·20	+ 0·91	
	27	F	...	2 17·60	17·78	− 0·18	31 27·49	32·00	− 4·51	c.
	29	M	2–3	2 17·33	17·68	− 0·35	31 31·79	32·00	− 0·21	
	30	C	3	2 17·69	17·62	+ 0·07	31 35·57	32·00	+ 3·57	
July	4	P	3	2 17·16	17·32	− 0·16	31 29·44	32·00	− 2·56	
	5	M	2	2 16·86	17·24	− 0·38	31 31·69	32·00	− 0·31	
	13	P	2–3	2 16·11	16·33	− 0·22	31 31·29	32·40	− 1·11	
	14	F	...	2 15·87	16·19	− 0·32	31 29·97	32·60	− 2·63	
	18	C	3–4	2 15·78	15·61	+ 0·17	31 32·48	33·00	− 0·52	*d.*
	19	P	3	2 15·21	15·47	− 0·26	31 31·18	33·00	− 1·82	
	21	M	2	2 14·80	15·15	− 0·35	31 32·15	33·40	− 1·25	F,c.
	25	M	2–3	2 14·30	14·51	− 0·21	31 36·46	34·20	+ 2·26	
	26	C	2	2 14·26	14·33	− 0·07	31 34·17	34·40	− 0·23	
August	1	F	...	2 13·08	13·29	− 0·21	31 35·26	35·80	− 0·54	
	2	M	3	2 12·88	13·11	− 0·23	31 36·13	36·00	+ 0·13	
	3	C	...	2 13·07	12·95	+ 0·12	31 37·57	36·20	+ 1·37	
	6	P	2–3	2 12·36	12·43	− 0·07	31 36·02	37·00	− 0·98	
	8	M	2	2 11·94	12·09	− 0·15	31 37·69	37·60	+ 0·09	
	10	M	2	2 11·62	11·75	− 0·13	31 39·11	38·20	+ 0·91	
	11	C	3–4	2 11·86	11·59	+ 0·27	31 39·84	38·60	+ 1·24	c.
	15	C	...	2 11·03	10·95	+ 0·08	31 40·22	40·00	+ 0·22	
	16	M	1–2	...	...	...	31 38·41	40·20	− 1·79	*f*,c.
	19	C	2	...	...	...	31 39·79	41·40	− 1·61	
	20	F	...	2 10·18	10·21	− 0·03	31 40·43	41·80	− 1·37	
	22	M	3	2 9·80	9·93	− 0·13	31 41·41	42·60	− 1·19	*d.*
	23	C	3–4	2 9·82	9·81	+ 0·01	31 42·60	43·00	− 0·40	
	29	F	3–2	2 8·96	9·11	− 0·15	31 44·59	45·60	− 1·01	c.
	30	M	3	2 8·70	9·01	− 0·31	31 46·37	46·20	+ 0·17	
	31	C	3	2 9·00	8·91	+ 0·09	31 46·53	46·60	− 0·07	
September	1	F	...	2 8·78	8·81	− 0·03	31 47·12	47·00	+ 0·12	
	2	C	...	2 8·83	8·72	+ 0·11	31 46·65	47·60	− 0·95	
	6	F	4–3	2 8·30	8·44	− 0·14	31 48·38	49·40	− 1·02	
	7	C	2	2 8·60	8·38	+ 0·22	31 49·91	49·80	+ 0·11	

Digitized by Google

Date.		Observer.	Definition.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Notes.
1887.				m s	s	s	° ″	″	″	
September	14	F	3	2 7·92	8·10	− 0·18	31 51·49	53·40	− 1·91	
	15	M	...	...	...	...	31 54·91	53·80	+ 1·11	
	17	F	4–3	2 8·22	8·08	+ 0·14	31 53·67	54·80	− 1·13	
	20	C	...	2 7·98	8·10	− 0·12	31 55·55	56·40	− 0·85	
	21	M	3	...	...	...	31 59·65	57·00	+ 2·65	
	22	F	3–4	2 8·14	8·16	− 0·02	31 57·38	57·60	− 0·22	
	23	M	2–3	2 7·89	8·20	− 0·31	31 60·43	58·20	+ 2·23	*u.*
	24	C	...	2 8·38	8·24	+ 0·14	31 59·09	58·60	+ 0·49	
	27	F	...	2 8·28	8·40	− 0·12	32 0·13	0·40	− 0·27	
	28	M	3	2 8·16	8·46	− 0·30	32 1·18	1·00	+ 0·18	u.
October	1	M	3–4	2 8·74	8·70	+ 0·04	32 4·01	2·60	+ 1·41	*p,t.*
	3	M	3	2 8·75	8·87	− 0 12	32 2·20	3·60	− 1·40	
	5	M	3	2 8·88	9·07	− 0·19	32 6·02	4·80	+ 1·22	
	6	C	3–4	2 9·54	9·19	+ 0·35	32 7·13	5·40	+ 1·73	
	10	C	...	2 9·68	9·69	− 0·01	32 6·61	7·60	− 0·99	
	12	C	...	2 10·42	9·97	+ 0·45	32 6·98	8·60	− 1·62	
	13	M	3–2	2 9·80	10·11	− 0·31	32 8·70	9·20	− 0·50	
	14	C	...	2 10·68	10·27	+ 0·41	32 9·79	9·60	+ 0·19	
	20	C	...	2 11·42	11·31	+ 0·11	32 12·52	13·00	− 0·48	
	21	M	...	2 11·37	11·51	− 0·14	32 (6·49)	13·40	(− 6·91)	s,c,*p.*
	25	M	3–4	2 12·12	12·31	− 0·19	32 18·56	15·60	+ 2·96	
	26	C	3–4	2 12·61	12·53	+ 0·08	32 16·64	16·20	+ 0·44	
	27	M	3–4	2 12·44	12·75	− 0·31	32 18·05	16·80	+ 1·25	
	28	C	3–4	2 13·14	12·97	+ 0·17	32 17·97	17·20	+ 0·77	
	29	M	3–4	2 12·98	13·19	− 0·21	32 17·67	17·80	− 0·13	*d,t.*
November	1	C	3	2 14·02	13·85	+ 0·17	32 19·24	19·40	− 0·16	
	3	C	...	2 14·11	14·31	− 0·20	32 20·20	20·20	0·00	
	4	M	3–4	2 14·05	14·55	− 0·50	32 24·73	20·80	+ 3·93	
	5	C	3–4	2 15·13	14·77	+ 0·36	32 22·31	21·20	+ 1·11	
	7	C	...	2 15·46	15·25	+ 0·21	32 22·79	22·20	+ 0·59	
	8	M	...	2 15·36	15·49	− 0·13	32 22·84	22·60	+ 0·24	
	10	M	2–3	2 15·89	15·97	− 0·08	32 22·23	23·60	− 1·37	
	12	M	...	2 16·17	16·45	− 0·28	...	...	...	
	14	M	...	2 16·76	16·91	− 0·15	32 25·68	25·20	+ 0·48	
	15	C	...	2 17·30	17·15	+ 0·15	32 25·53	25·80	− 0·27	
	16	M	2–3	2 17·10	17·39	− 0·29	32 25·96	26·20	− 0·24	
	17	C	...	2 17·76	17·63	+ 0·13	32 27·19	26·60	+ 0·59	
	19	C	3–4	2 18·36	18·09	+ 0·27	32 27·91	27·40	+ 0·51	
	21	C	...	2 18·57	18·55	+ 0·02	32 27·95	28·20	− 0·25	
	22	M	3	2 18·58	18·77	− 0·19	32 31·78	28·60	+ 3·18	
	23	C	...	2 19·06	18·99	+ 0·07	32 29·34	29·00	+ 0·34	
	24	M	3–4	2 19·06	19·19	− 0·13	32 32·54	29·20	+ 3·34	t.
	26	M	3–4	2 19·26	19·61	− 0·35	32 29·36	30·00	− 0·64	
	28	M	2–3	2 19·84	20·01	− 0·17	32 29·87	30·60	− 0·73	T.
	29	C	...	2 20·31	20·19	+ 0·12	32 31·76	31·00	+ 0·76	
	30	M	...	2 20·30	20·39	− 0·09	32 32·32	31·40	+ 0·92	
December	2	M	3–4	2 20·74	20·73	+ 0·01	32 35·05	32·00	+ 3·05	
	3	C	3–4	2 20·93	20·89	+ 0·04	32 33·56	32·20	+ 1·36	

Digitized by Google

Date.		Observer.	Definition.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Notes.
1887.				m s	s	s	′ ″	″	″	
December	6	M	...	...	..	. .	32 34·07	33·00	+ 1·07	
	7	C	...	2 21·36	21·49	− 0·13	32 33·45	33·20	+ 0·25	
	9	C	3–4	2 21·88	21·75	+ 0·13	32 35·22	33·60	+ 1·62	
	10	M	3–4	2 22·00	21·85	+ 0·15	32 37·02	34·00	+ 3·02	*t.*
	12	M	3	2 22·05	22·05	0·00	32 35·69	34·40	+ 1·29	
	13	C	...	2 22·08	22·15	− 0·07	32 34·88	34·60	+ 0·28	
	14	M	3–4	2 22·33	22·24	+ 0·09	32 37·00	34·60	+ 2·40	
	15	C	...	2 22·16	22·32	− 0·16	32 35·74	34·80	+ 0·94	
	16	M	2–3	2 22·27	22·38	− 0·11	32 34·55	35·00	− 0·45	*t.*
	17	C	...	2 22·80	22·44	+ 0·36	32 34·99	35·20	− 0·21	
	21	C	3–4	2 22·66	22·56	+ 0·10	32 38·34	35·80	+ 2·54	
	22	M	3	2 22·14	22·56	− 0·42	32 35·52	36·00	− 0·48	u.
	23	C	...	2 22·86	22·56	+ 0·30	32 37·59	36·00	+ 1·59	
	24	M	...	2 22·36	22·56	− 0·20	32 37·96	36·20	+ 1·76	
	28	M	3	2 22·38	22·44	− 0·06	32 38·35	36·40	+ 1·95	
1888.										
January	4	C	3–4	2 22·08	21·89	+ 0·19	32 34·74	36·40	− 1·66	c.
	5	M	3	2 21·64	21·77	− 0·13	32 37·97	36·40	+ 1·57	
	6	C	...	2 21·90	21·65	+ 0·25	32 37·21	36·40	+ 0·81	
	9	M	3–4	2 21·12	21·23	− 0·11	32 38·41	36·20	+ 2·21	
	10	C	...	...	...	...	32 36·22	36·00	+ 0·22	
	12	C	...	2 21·01	20·75	+ 0·26	32 36·24	35·80	+ 0·44	
	13	M	3	2 20·22	20·59	− 0·37	32 35·77	35·60	+ 0·17	
	16	C	...	2 20·26	20·05	+ 0·21	32 35·42	35·20	+ 0·22	
	17	M	3–4	2 19·84	19·85	− 0·01	32 37·17	35·20	+ 1·97	
	18	C	3	2 19·94	19·65	+ 0·29	32 36·63	35·00	+ 1·63	
	19	M	3–4	2 19·38	19·45	− 0·07	32 35·50	34·80	+ 0·70	
	24	F	3	2 18·42	18·41	+ 0·01	32 33·84	34·00	− 0·16	
	26	C	2	...	...	...	32 35·34	33·40	+ 1·94	
	30	C	...	2 17·12	17·05	+ 0·07	32 32·44	32·40	+ 0·04	
February	1	C	...	2 16·65	16·59	+ 0·06	32 31·63	31·80	− 0·17	
	4	M	3–4	2 15·68	15·89	− 0·21	32 31·71	30·80	+ 0·91	t.
	6	P	3	2 15·31	15·43	− 0·12	32 26·97	30·20	− 3·23	
	9	C	3–4	2 14·88	14·75	+ 0·13	32 30·10	29·20	+ 0·90	
	10	M	3–4	2 14·32	14·53	− 0·21	32 29·15	28·80	+ 0·35	p.
	11	P	4	2 14·69	14·31	+ 0·38	32 30·95	28·40	+ 2·55	
	14	C	...	2 13·87	13·65	+ 0·22	32 27·92	27·20	+ 0·72	
	15	P	3	2 13·47	13·45	+ 0·02	32 29·26	26·80	+ 2·46	
	16	M	3	2 13·02	13·23	− 0·21	32 28·13	26·40	+ 1·73	
	20	M	3–4	2 12·38	12·43	− 0·05	32 26·80	24·80	+ 2·00	*d.*
	21	C	3–4	2 12·40	12·25	+ 0·15	32 26·01	24·40	+ 1·61	
	23	M	3	2 11·82	11·89	− 0·07	32 19·76	23·40	− 3·64	
	24	C	...	2 11·83	11·71	+ 0·12	32 25·59	23·00	+ 2·59	
	28	P	3–4	2 10·95	11·05	− 0·10	32 20·44	21·20	− 0·76	
March	1	C	...	2 10·83	10·75	+ 0·08	32 20·31	20·20	+ 0·11	
	2	P	3	2 10·50	10·61	− 0·11	32 20·02	19·60	+ 0·42	
	3	M	2	2 10·40	10·47	− 0·07	32 19·19	19·20	− 0·01	
	7	M	2–3	2 9·60	9·97	− 0·37	32 18·03	17·00	+ 1·03	

Digitized by Google

Date.		Observer.	Definition.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Notes.
1888.				m s	s	s	′ ″	″	″	
March	8	P	3-4	2 9·80	9·87	− 0·07	32 16·18	16·40	− 0·22	
	9	M	3	2 9·56	9·77	− 0·21	32 14·73	16·00	− 1·27	
	10	C	...	2 9·77	9·67	+ 0·10	32 15·91	15·40	+ 0·51	
	12	C	...	2 9·70	9·48	+ 0·22	32 16·58	14·40	+ 2·18	
	14	C	3	2 9·44	9·32	+ 0·12	32 13·61	13·40	+ 0·21	
	15	M	2-3	2 9·14	9·26	− 0·12	32 15·36	12·80	+ 2·56	
	16	P	3-4	...	. .	...	32 15·54	12·20	+ 3·34	
	17	M	2	2 8·73	9·14	− 0·41	32 11·16	11·80	− 0·64	
	19	M	2-3	2 8·88	9·04	− 0·16	32 12·33	10·60	+ 1·73	
	24	P	3-2	2 8·64	8·92	− 0·28	32 6·96	8·00	− 1·04	
	26	P	4	2 8·98	8·90	+ 0·08	32 7·79	6·80	+ 0·99	
	27	C	...	2 9·04	8·90	+ 0·14	32 6·10	6·40	− 0·30	
	28	M	...	2 8·69	8·92	− 0·23	32 6·26	5·80	+ 0·46	
	29	C	...	2 9·23	8·94	+ 0·29	32 6·12	5·20	+ 0·92	
April	4	M	3-4	2 9·23	9·14	+ 0·09	32 2·38	1·80	+ 0·58	
	7	C	...	2 9·59	9·32	+ 0·27	32 0·78	0·20	+ 0·58	
	9	C	...	2 9·71	9·48	+ 0·23	31 58·54	59·00	− 0·46	
	10	P	3-4	2 9·49	9·56	− 0·07	31 61·70	58·40	+ 3·30	
	13	P	...	2 9·70	9·83	− 0·13	31 56·51	56·80	− 0·29	
	16	M	2	2 10·17	10·13	+ 0·04	31 52·89	55·20	− 2·31	
	20	M	2-3	...	...	...	31 53·12	53·20	− 0·08	p.
	23	C	3	2 11·05	11·01	+ 0·04	31 51·19	51·80	− 0·61	
	27	P	3	2 11·43	11·59	− 0·14	31 45·92	49·80	− 3·88	
	28	M	3	2 11·52	11·71	− 0·19	31 50·02	49·20	+ 0·82	
May	4	M	2	2 12·58	12·67	− 0·09	31 45·78	46·40	− 0·62	
	8	M	2-3	...	...	...	31 44·60	44·60	0·00	
	9	P	3-4	2 13·22	13·49	− 0·27	31 41·32	44·20	− 2·88	
	14	M	2	2 14·03	14·31	− 0·28	31 41·73	42·00	− 0·27	c.
June	1	C	2	2 16·97	16·87	+ 0·10	31 34·16	36·20	− 2·04	
	7	C	2-3	2 17·50	17·44	+ 0·06	31 33·20	34·60	− 1·40	
	8	M	1	2 17·08	17·52	− 0·44	31 34·06	34·40	− 0·34	
	12	P	2	2 17·39	17·74	− 0·35	31 31·20	33·60	− 2·40	
	18	P	3	2 17·90	17·92	− 0·02	31 33·76	32·80	+ 0·96	
	19	C	3-4	2 17·91	17·92	− 0·01	31 33·97	32·60	+ 1·37	
	20	M	2-3	2 17·62	17·92	− 0·30	31 33·38	32·60	+ 0·78	*d.*
	21	C	...	2 17·92	17·90	+ 0·02	31 32·10	32·40	− 0·30	
	30	C	3-4	2 17·78	17·56	+ 0·22	31 32·64	32·00	+ 0·64	
July	10	C	...	...	..	...	31 32·28	32·20	+ 0·08	*f*,c.
	12	P	2-3	2 16·25	16·35	− 0·10	31 31·45	32·20	− 0·75	
	13	M	2-3	2 15·94	16·21	− 0·27	31 32·77	32·40	+ 0·37	
	16	M	2-3	2 15 55	15·79	− 0·24	31 34·36	32·80	+ 1·56	
	17	P	2-3	2 15·46	15·65	− 0·19	31 32·07	32·80	− 0·73	
	18	C	...	2 15·58	15·51	+ 0·07	31 33·36	33·00	+ 0·36	
	20	C	...	2 15·08	15·19	− 0·11	31 32·26	33·40	− 1 14	c.
	23	C	3	2 14·72	14·71	+ 0·01	31 34·03	33·80	+ 0·23	
August	3	P	2-3	2 12·61	12·81	− 0·20	31 33·52	36·40	− 2·88	

Digitized by Google

Date.		Observer.	Definition.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Notes.
1888.				m s	s	s	′ ″	″	″	
August	9	P	3–4	2 11·69	11·77	− 0·08	31 38·76	38·00	+ 0·76	
	10	C	...	2 11·85	11·61	+ 0·24	31 39·15	38·40	+ 0·75	
	13	M	3	2 10·93	11·13	− 0·20	31 38·32	39·40	− 1·08	
	14	C	...	2 10·92	10·97	− 0·05	31 39·13	39·80	− 0·67	
	16	P	3	2 10·39	10·67	− 0·28	31 39·86	40·60	− 0·74	c.
	17	P	2–3	2 10·28	10·53	− 0·25	31 39·76	41·00	− 1·24	
	18	C	3–4	2 10·47	10·39	+ 0·08	31 40·66	41·40	− 0·74	
	21	P	3	2 9·70	9·97	− 0·27	31 42·46	42·60	− 0·14	
	22	C	...	2 9·94	9·83	+ 0·11	31 43·11	43·00	+ 0·11	
	25	M	2–3	2 9·28	9·47	− 0·19	31 43·83	44·20	− 0·37	
	31	M	2–3	2 8·58	8·83	− 0·25	31 46·30	46·80	− 0·50	
September	1	C	...	2 8·79	8·74	+ 0·05	31 47·98	47·20	+ 0·78	
	4	P	2–3	2 8·35	8·50	− 0·15	31 48·67	48·60	+ 0·07	
	6	C	...	2 8·50	8·38	+ 0·12	31 50·43	49·60	+ 0·83	
	13	C	1–2	2 8·20	8·12	+ 0·08	31 51·59	53·20	− 1·61	*f*,c.
	15	M	2–3	2 7·89	8·10	− 0·21	31 53·96	54·20	− 0·24	
	17	P	3	...	...	...	31 55·14	55·40	− 0·26	
	29	M	2–3	2 8·43	8·58	− 0·15	32 2·90	1·80	+ 1·10	
October	2	C	3	2 9·18	8·83	+ 0·35	32 2·12	3·40	− 1·28	
	3	P	3–4	2 8·67	8·93	− 0·26	32 3·48	4·00	− 0·52	
	4	C	3	2 9·43	9·03	+ 0·40	32 4·79	4·60	+ 0·19	
	5	M	2–1	2 8·96	9·15	− 0·19	32 4·04	5·00	− 0·96	
	9	M	3–2	2 9·56	9·65	− 0·09	32 7·78	7·40	+ 0·38	
	13	C	...	2 10·50	10·25	+ 0·25	32 9·42	9·60	− 0·18	
	16	P	2–3	2 10·65	10·75	− 0·10	32 9·73	11·20	− 1·47	
	22	C	3	2 12·04	11·87	+ 0·17	32 16·06	14·60	+ 1·46	
	23	P	3–4	2 12·00	12·07	− 0·07	32 16·76	15·00	+ 1·76	
	30	C	...	2 13·57	13·57	0·00	32 16·74	18·60	− 1·86	
	31	M	2–3	2 13·58	13·79	− 0·21	32 19·75	19·00	+ 0·75	
November	1	C	3–4	2 13·92	14·03	− 0·11	32 20·36	19·60	+ 0·76	*p*.
	8	M	2–3	2 15·29	15·67	− 0·38	32 22·20	23·00	− 0·80	
	12	M	2–3	2 16·30	16·63	− 0·33	32 24·52	24·80	− 0·28	
	14	M	2–3	2 16·90	17·11	− 0·21	32 22·93	25·60	− 2·67	
	19	P	3	2 18·07	18·27	− 0·20	32 28·40	27·80	+ 0·60	
	20	M	3–4	2 18·44	18·49	− 0·05	32 30·53	28·20	+ 2·33	
	23	C	...	2 18·96	19·13	− 0·17	32 28·77	29·20	− 0·43	c.
	27	M	2–3	2 19·60	19·95	− 0·35	32 31·01	30·60	+ 0·41	
	28	P	3–4	2 20·19	20·15	+ 0·04	32 28·37	30·80	− 2·43	
	30	C	3–4	2 20·72	20·51	+ 0·21	32 31·56	31·40	+ 0·16	c.
December	5	M	2–3	2 21·08	21·31	− 0·23	32 34·18	33·00	+ 1·18	
	7	P	3–4	2 21·80	21·59	+ 0·21	32 31·96	33·40	− 1·44	
	8	C	3–4	...	...	...	32 35·23	33·60	+ 1·63	
	14	C	3	...	...	...	32 37·16	35·00	+ 2·16	
	15	M	3–2	2 22·08	22·36	− 0·28	32 36·47	35·20	+ 1·27	
	20	C	3–4	2 22·98	22·56	+ 0·42	32 37·71	35·80	+ 1·91	
	21	M	2–3	2 22·34	22·56	− 0·22	32 36·95	36·00	+ 0·95	
	31	C	3–4	2 22·57	22·18	+ 0·39	32 35·22	36·40	− 1·18	

Digitized by Google

Date.		Observer.	Definition.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Notes.
1889.				m s	s	s	′ ″	″	″	
January	7	P	3-4	2 21·55	21·41	+ 0·14	32 38·50	36·20	+ 2·30	
	8	C	...	2 21·45	21·27	+ 0·18	32 37·30	36·20	+ 1·10	
	10	C	3	2 21·24	20·97	+ 0·27	32 35·65	36·00	− 0·35	
	11	P	3	2 20·66	20·81	− 0·15	32 36·33	36·00	+ 0·33	
	17	P	3-4	2 19·81	19·71	+ 0·10	32 33·59	35·20	− 1·61	
	18	C	...	2 19·94	19·51	+ 0·43	32 33·86	35·00	− 1·14	
	19	P	3	2 19·26	19·31	− 0·05	32 35·56	34·80	+ 0·76	
	23	P	3	2 18·52	18·47	+ 0·05	32 31·88	34·00	− 2·12	
	24	C	3	2 18·24	18·25	− 0·01	32 33·79	33·80	− 0·01	
	25	P	3-4	2 18·08	18·03	+ 0·05	32 35·24	33·40	+ 1·84	
	26	C	...	2 17·86	17·79	+ 0·07	32 32·47	33·20	− 0·73	
	28	C	...	2 17·42	17·33	+ 0·09	32 32·67	32·60	+ 0·07	
	30	C	...	2 17·19	16·87	+ 0·32	32 33·40	32·20	+ 1·20	
February	4	M	3-4	2 15·58	15·73	− 0·15	32 34·24	30·60	+ 3·64	
	9	C	3-4	2 14·77	14·59	+ 0·18	32 29·95	29·00	+ 0·95	
	11	C	...	2 14·30	14·15	+ 0·15	32 28·29	28·20	+ 0·09	
	12	C	3-4	2 13·62	13·93	− 0·31	32 28·81	27·80	+ 1·01	
	13	C	3-4	2 14·02	13·71	+ 0·31	32 29·85	27·40	+ 2·45	
	15	C	...	2 13·52	13·29	+ 0·23	32 25·81	26·60	− 0·79	
	18	M	2-3	2 12·67	12·67	0·00	32 25·75	25·40	+ 0·35	
	19	C	...	2 12·90	12·49	+ 0·41	32 24·44	25·00	− 0·56	
	22	M	2-3	2 11·82	11·93	− 0·11	32 25·00	23·60	+ 1·40	
	23	C	3-4	2 11·96	11·75	+ 0·21	32 23·83	23·00	+ 0·83	
	27	C	...	2 10·95	11·09	− 0·14	32 21·78	21·20	+ 0·58	
	28	M	2-3	2 10·78	10·93	− 0·15	32 21·85	20·60	+ 1·25	
March	4	M	2-3	2 9·96	10·37	− 0·41	32 18·34	18·60	− 0·26	
	7	C	...	2 10·24	10·01	+ 0·23	32 15·64	17·20	− 1·56	
	8	M	2-3	2 9·84	9·89	− 0·05	32 17·62	16·60	+ 1·02	
	15	C	3	2 9·40	9·28	+ 0·12	32 12·87	13·00	− 0·13	
	16	M	3	2 9·07	9·20	− 0·13	32 13·64	12·40	+ 1·24	
	18	M	3-4	2 8·94	9·10	− 0·16	32 14·80	11·40	+ 3·40	
	19	C	...	2 9·08	9·06	+ 0·02	32 12·25	10·80	+ 1·45	
	22	M	2-3	2 8·68	8·94	− 0·26	32 9·00	9·20	− 0·20	
	23	P	...	2 8·72	8·92	− 0·20	32 7·93	8·60	− 0·67	
	28	M	2	...	...	...	32 6·06	5·80	+ 0·26	
April	3	C	3-4	2 9·14	9·08	+ 0·06	32 1·70	2·40	− 0·70	
	9	M	2	2 9·26	9·46	− 0·20	31 60·55	59·20	+ 1·35	
	30	M	2-3	2 11·78	11·99	− 0·21	31 48·60	48·20	+ 0·40	
May	11	M	2-3	2 13·69	13·77	− 0·08	31 43·02	43·40	− 0·38	
	13	M	2-3	2 13·85	14·11	− 0·26	31 42·24	42·60	− 0·36	
	23	C	...	2 15·82	15·67	+ 0·15	31 37·93	38·80	− 0·87	
June	3	M	2-3	2 16·98	17·05	− 0·07	31 36·85	35·60	+ 1·25	
	6	M	2-3	2 17·22	17·34	− 0·12	31 36·12	35·00	+ 1·12	
	7	P	3-4	2 17·42	17·42	0·00	31 34·42	34·80	− 0·38	
	8	C	...	2 17·46	17·50	− 0·04	31 33·80	34·60	− 0·80	
	11	P	3-4	2 17·82	17·68	+ 0·14	31 35·25	34·00	+ 1·25	

Digitized by Google

Date.		Observer.	Definition.	Diameter.		Corr. to N.A.	Diameter.		Corr. to N.A.	Notes.
				Observed.	N.A.		Observed.	N.A.		
1889.				m s	s	s	′ ″	″	″	
June	15	C	3–4	2 17·94	17·88	+ 0·06	31 33·21	33·20	+ 0·01	
	18	C	...	2 17·90	17·92	− 0·02	31 32·93	32·80	+ 0·13	
	25	P	3	2 17·75	17·84	− 0·09	31 31·08	32·00	− 0·92	
	28	C	...	2 17·90	17·70	+ 0·20	31 29·93	32·00	− 2·07	
July	1	M	3–4	2 17·27	17·52	− 0·25	31 31·90	31·80	+ 0·10	
	3	C	3	2 17·37	17·36	+ 0·01	31 31·25	31·80	− 0·55	
	4	M	2–3	2 17·01	17·28	− 0·27	31 32·29	32·00	+ 0·29	c.
	9	C	2	2 16·65	16·77	− 0·12	31 30·86	32·20	− 1·34	c.
	17	M	...	...	...	...	31 32·72	33·00	− 0·28	
	22	C	3	2 14·92	14·91	+ 0·01	31 32·80	33·60	− 0·80	
	23	M	2–3	2 14·60	14·73	− 0·13	31 33·83	33·80	+ 0·03	
	24	P	...	2 14·34	14·57	− 0·23	31 31·36	34·00	− 2·64	
	26	C	3	2 14·12	14·23	− 0·11	31 34·65	34·40	+ 0·25	
	29	P	...	2 13·81	13·71	+ 0·10	31 33·14	35·00	− 1·86	
August	2	M	2–3	2 12·91	13·03	− 0·12	31 37·08	36·00	+ 1·08	
	7	C	2–3	2 12·15	12·17	− 0·02	31 38·18	37·60	+ 0·58	
	8	P	3–2	2 11·88	11·99	− 0·11	31 36·96	37·80	− 0·84	
	9	C	3–2	2 11·84	11·83	+ 0·01	31 37·48	38·20	− 0·72	
	12	C	...	...	...	...	31 38·62	39·20	− 0·58	
	16	M	2–3	2 10·54	10·71	− 0·17	31 39·21	40·60	− 1·39	
	17	P	3–4	2 10·29	10·57	− 0·28	31 40·31	40·80	− 0·49	
	21	C	3–4	2 10·10	10·01	+ 0·09	31 41·32	42·40	− 1·08	
	22	M	2	2 9·86	9·87	− 0·01	31 43·10	42·80	+ 0·30	
	28	M	2–3	2 9·10	9·15	− 0·05	31 45·67	45·40	+ 0·27	
	30	C	2	2 8·91	8·96	− 0·05	31 45·71	46·20	− 0·49	
September	5	C	...	2 8·54	8·48	+ 0·06	31 50·19	49·20	+ 0·99	
	11	M	3–2	2 8·11	8·16	− 0·05	31 52·80	52·20	+ 0·60	
	12	P	3–4	2 7·90	8·14	− 0·24	31 50·07	52·60	− 2·53	
	13	M	2–3	2 8·07	8·12	− 0·05	31 54·01	53·20	+ 0·81	
	19	C	...	...	...	...	31 54·28	56·20	− 1·92	
	26	C	4–3	2 8·53	8·36	+ 0·17	32 0·78	0·00	+ 0·78	
	30	M	2–3	2 8·66	8·64	+ 0·02	32 4·01	2·20	+ 1·81	
October	2	M	2–3	2 8·80	8·82	− 0·02	32 4·92	3·40	+ 1·52	
	5	P	4–3	2 9·20	9·13	+ 0·07	32 5·29	5·00	+ 0·29	
	9	C	3	2 9·60	9·61	− 0·01	32 6·75	7·20	− 0·45	
	15	P	3–4	...	...	...	32 9·57	10·60	− 1·03	
	19	C	4–3	2 11·38	11·23	+ 0·15	32 15·06	12·60	+ 2·46	
	28	P	2–3	2 12·83	13·07	− 0·24	32 15·24	17·40	− 2·16	c.
	30	M	2	2 13·48	13·51	− 0·03	32 17·44	18·40	− 0·96	
November	5	M	3–2	2 14·84	14·89	− 0·05	32 20·25	21·40	− 1·15	
	11	M	2–3	...	...	...	32 24·48	24·20	+ 0·28	
	13	C	3–4	...	...	...	32 26·37	25·00	+ 1·37	
	21	M	...	...	...	...	32 26·69	28·20	− 1·51	p,c.
	22	C	3–4	2 18·76	18·87	− 0·11	32 30·10	28·60	+ 1·50	
December	5	M	3–2	2 20·91	21·29	− 0·38	32 32·53	32·80	− 0·27	

Digitized by Google

Date.		Observer.	Definition.	Diameter.		Corr. to N.A.	Diameter.		Corr. to N.A.	Notes.
				Observed.	N.A.		Observed.	N.A.		
1889.				m s	s	s	′ ″	″	″	
December	6	C	3-4	2 21·62	21·43	+ 0·19	32 34·70	33·20	+ 1·50	
	9	M	3-4	2 21·78	21·79	− 0·01	32 36·06	33·80	+ 2·26	*p.*
	28	C	3-4	2 22·49	22·40	+ 0·09	32 37·43	36·40	+ 1·03	
	30	C	3-4	2 22·39	22·28	+ 0·11	32 37·42	36·40	+ 1·02	
1890.										
January	10	C	3-4	...	...	...	32 38·48	36·00	+ 2·48	
	18	C	3-4	2 19·67	19·55	+ 0·12	32 37·88	35·00	+ 2·88	
	22	C	3	2 18·80	18·73	+ 0·07	32 33·74	34·20	− 0·46	
	30	C	3-4	2 17·09	16·93	+ 0·16	32 33·13	32·20	+ 0·93	
February	8	C	2-3	2 14·81	14·87	− 0·06	32 29·09	29·40	− 0·31	
	10	C	3	2 14·62	14·43	+ 0·19	...	...	...	
	20	C	3-2	2 12·34	12·35	− 0·01	32 24·13	24·40	− 0·27	
	26	C	3	2 11·33	11·29	+ 0·04	32 22·83	21·80	+ 1·03	
March	1	M	3-2	2 10·93	10·81	+ 0·12	32 24·35	20·40	+ 3·95	
	5	M	3-2	2 10·06	10·27	− 0·21	32 21·11	18·40	+ 2·71	
	6	C	3	2 10·11	10·15	− 0·04	32 18·58	18·00	+ 0·58	
	7	M	3-2	2 9·88	10·03	− 0·15	32 20·13	17·40	+ 2·73	
	8	C	3	2 9·95	9·91	+ 0·04	32 16·67	16·80	− 0·13	
	13	C	3	...	...	...	32 15·01	14·20	+ 0·81	
	21	M	2-3	2 8·78	8·98	− 0·20	32 11·35	9·80	+ 1·55	
	24	M	2-3	2 8·45	8·92	− 0·47	32 9·61	8·20	+ 1·41	
	31	C	3-4	2 8·97	8·96	+ 0·01	32 4·47	4·40	+ 0·07	
April	5	P	3-2	2 9·08	9·18	− 0·10	31 59·50	61·60	− 2·10	
	8	M	3-2	2 9·28	9·36	− 0·08	32 1·60	0·00	+ 1·60	
	14	P	2	2 9·62	9·87	− 0·25	31 54·89	56·60	− 1·71	c.
	16	JP	3	2 9·91	10·07	− 0·16	31 54·60	55·60	− 1·00	c.
	30	JP	3	2 12·04	11·97	+ 0·07	31 52·00	48·40	+ 3·60	
May	1	C	2-3	2 12·09	12·11	− 0·02	31 47·69	48·00	− 0·31	
	2	P	3-2	2 12·07	12·27	− 0·20	31 46·61	47·60	− 0·99	
	3	AC	...	...	...	...	31 47·41	47·20	+ 0·21	
	14	M	1-2	2 14·04	14·23	− 0·19	31 42·74	42·40	+ 0·34	
	23	AC	...	...	...	...	31 38·85	39·00	− 0·15	
	28	P	2-3	2 16·24	16·35	− 0·11	31 34·33	37·40	− 3·07	
June	2	M	...	2 16·86	16·93	− 0·07	31 35·53	36·00	− 0·47	
	5	P	...	2 17·25	17·22	+ 0·03	31 34·02	35·40	− 1·38	
	11	AC	...	2 17·60	17·68	− 0·08	31 34·90	34·00	+ 0·90	
	12	C	2-3	2 17·74	17·74	0·00	31 33·25	33·80	− 0·55	
	14	JP	2-3	2 17·71	17·82	− 0·11	31 34·02	33·40	+ 0·62	
	16	JP	3-4	2 17·74	17·88	− 0·14	31 36·44	33·00	+ 3·44	
	17	C	3	2 17·94	17·90	+ 0·04	31 33·36	33·00	+ 0·36	
	19	W	...	2 17·99	17·94	+ 0·05	31 32·89	32·80	+ 0·09	
	24	P	3-4	2 17·59	17·88	− 0·29	31 31·47	32·20	− 0·73	
	25	C	..	2 17·97	17·86	+ 0·11	31 31·22	32·20	− 0·98	
	26	JP	2-3	2 18·07	17·82	+ 0·25	31 32·39	32·20	+ 0·19	

Digitized by Google

Date.		Observer.	Definition.	Diameter.		Corr. to N.A.	Diameter.		Corr. to N.A.	Notes.
				Observed.	N.A.		Observed.	N.A.		
1890.				m s	s	s	′ ″	″	″	
June	27	W	...	2 17·98	17·76	+ 0·22	...	...	...	
	28	M	1–2	2 17·57	17·72	− 0·15	31 30·77	32·00	− 1·23	
July	4	JP	2	2 17·19	17·30	− 0·11	31 31·48	32·00	− 0·52	
	9	W	...	2 16·79	16·79	0·00	31 32·51	32·20	+ 0·31	
	10	P	2–3	2 16·53	16·67	− 0·14	31 30·47	32·20	− 1·73	
	11	AC	...	2 16·50	16·55	− 0·05	31 32·39	32·20	+ 0·19	
	17	AC	...	2 15·51	15·73	− 0·22	31 32·91	32·80	+ 0·11	
	21	P	3	2 14·98	15·11	− 0·13	31 32·13	33·40	− 1·27	
	24	AC	...	...	..	...	31 34·16	34·00	+ 0·16	
	25	W	...	2 14·46	14·47	− 0·01	31 34·45	34·20	+ 0·25	
August	6	C	1–2	...	...	...	31 33·54	37·20	− 3·66	
	9	M	...	2 11·68	11·89	− 0·21	31 37·24	38·00	− 0·76	
	13	C	2	2 11·11	11·21	− 0·10	31 38·66	39·40	− 0·74	
	14	AC	...	...	...	...	31 41·31	39·60	+ 1·71	*t.*
	15	JP	2–3	2 10·78	10·91	− 0·13	31 41·71	40·00	+ 1·71	
	18	C	3–4	2 10·39	10·47	− 0·08	31 41·14	41·20	− 0·06	
	26	JP	3–2	2 9·34	9·41	− 0·07	31 44·64	44·40	+ 0·24	
	29	AC	...	2 9·21	9·09	+ 0·12	31 49·31	45·80	+ 3·51	
	30	C	3	2 8·85	8·99	− 0·14	31 45·43	46·20	− 0·77	
September	1	P	...	2 8·63	8·79	− 0·16	31 46·19	47·00	− 0·81	
	2	M	2	2 8·74	8·70	+ 0·04	31 48·45	47·60	+ 0·85	
	6	JP	...	...	...	...	31 50·48	49·40	+ 1·08	
	10	M	2–3	2 8·09	8·22	− 0·13	31 51·41	51·40	+ 0·01	
	13	W	...	...	...	...	31 53·72	52·80	+ 0·92	
	15	AC	...	...	...	...	31 53·72	54·00	− 0·28	
	20	C	...	2 8·01	8·12	− 0·11	31 54·94	56·60	− 1·66	
	26	W	...	...	...	...	31 59·94	59·80	+ 0·14	
	27	AC	...	...	...	...	32 1·26	0·40	+ 0·86	
October	8	P	...	2 9·27	9·45	− 0·18	32 4·98	6·40	− 1·42	
	13	P	3–4	2 10·23	10·15	+ 0·08	32 9·78	9·20	+ 0·58	
	31	AC	...	2 13·62	13·67	− 0·05	32 19·07	18·80	+ 0·27	
November	3	M	3–4	2 14·59	14·37	+ 0·22	32 23·28	20·20	+ 3·08	*d*,p.
	5	JP	3–4	2 14·97	14·83	+ 0·14	32 21·72	21·20	+ 0·52	
	6	W	3	2 15·19	15·07	+ 0·12	32 23·57	21·60	+ 1·97	
	8	AC	...	2 15·55	15·55	0·00	32 23·48	22·60	+ 0·88	
	11	M	3–4	2 16·48	16·27	+ 0·21	32 28·02	24·00	+ 4·02	*d*,*t*.
	20	JP	3–4	2 18·60	18·37	+ 0·23	32 30·73	27·80	+ 2·93	
December	18	AC	...	2 22·41	22·48	− 0·07	32 36·05	35·40	+ 0·65	
	31	C	3–4	2 22·32	22·22	+ 0·10	32 35·99	36·40	− 0·41	
1891.										
January	12	P	3	2 20·61	20·71	− 0·10	32 36·21	35·80	+ 0·41	
	14	M	3	...	...	...	32 37·17	35·60	+ 1·57	
	16	AC	...	2 20·13	19·99	+ 0·14	32 35·76	35·40	+ 0·36	
	17	M	2–3	2 19·76	19·81	− 0·05	32 37·27	35·20	+ 2·07	

Digitized by Google

Date.		Observer.	Definition.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Notes.
1891.				m s	s	s	′ ″	″	″	
January	19	M	2–3	2 19·35	19·41	− 0·06	32 37·08	34·80	+ 2·28	
	26	W	3	2 17·87	17·91	− 0·04	32 34·24	33·40	+ 0·84	
	27	AC	...	2 17·62	17·69	− 0·07	32 36·02	33·20	+ 2·82	*d.*
	28	P	3–4	2 17·49	17·45	+ 0·04	32 32·41	33·00	− 0·59	c.
February	2	JP	3–4	2 16·39	16·29	+ 0·10	32 33·58	31·40	+ 2·18	
	4	M	3	2 16·00	15·83	+ 0·17	32 31·19	30·80	+ 0·39	
	6	P	3–4	2 15·23	15·37	− 0·14	32 32·95	30·20	+ 2·75	
	7	AC	...	2 15·13	15·15	− 0·02	32 28·87	29·80	− 0·93	
	11	W	3–4	2 14·37	14·25	+ 0·12	32 32·75	28·40	+ 4·35	
	12	JP	3–4	2 14·09	14·03	+ 0·06	32 30·95	28·00	+ 2·95	
	14	AC	...	2 13·59	13·61	− 0·02	32 28·62	27·20	+ 1·42	
	16	P	2–3	2 13·18	13·19	− 0·01	32 25·92	26·40	− 0·48	
	23	M	3	2 11·78	11·85	− 0·07	32 24·90	23·40	+ 1·50	
	28	C	3	2 11·06	11·01	+ 0·05	32 19·80	21·20	− 1·40	
March	2	W	3–4	2 10·78	10·71	+ 0·07	32 20·67	20·20	+ 0·47	
	3	JP	3	2 10·53	10·57	− 0·04	32 18·91	19·60	− 0·69	
	4	C	3–4	2 10·45	10·43	+ 0·02	32 19·67	19·20	+ 0·47	
	5	M	2–3	2 10·41	10·30	+ 0·11	32 20·13	18·60	+ 1·53	
	9	AC	...	2 9·86	9·84	+ 0·02	32 18·98	16·40	+ 2·58	
	10	M	2–3	2 9·58	9·74	− 0·16	32 17·06	16·00	+ 1·06	
	13	P	3	2 9·35	9·46	− 0·11	32 16·67	14·40	+ 2·27	
	16	JP	3	2 9·30	9·24	+ 0·06	32 17·31	12·80	+ 4·51	
	17	AC	...	2 9·27	9·18	+ 0·09	32 12·99	12·20	+ 0·79	
	20	C	3	2 9·03	9·02	+ 0·01	32 10·02	10·60	− 0·58	
	23	C	3–4	2 9·10	8·94	+ 0·16	32 9·53	9·00	+ 0·53	
	24	P	3	2 8·94	8·92	+ 0·02	32 8·58	8·60	− 0·02	
April	2	M	3	2 9·04	9·02	+ 0·02	32 4·76	3·40	+ 1·36	
	6	W	3–4	2 9·25	9·24	+ 0·01	32 3·49	1·20	+ 2·29	
	7	P	3–4	2 9·25	9·30	− 0·05	32 3·00	0·60	+ 2·40	
	10	AC	...	2 9·50	9·52	− 0·02	31 61·60	59·00	+ 2·60	
	11	C	3	2 9·58	9·60	− 0·02	31 57·49	58·40	− 0·91	
	17	P	3	2 10·01	10·20	− 0·19	31 54·65	55·20	− 0·55	
	18	M	3–4	2 10·42	10·32	+ 0·10	31 57·12	54·80	+ 2·32	
	20	C	3	2 10·53	10·56	− 0·03	31 53·30	53·80	− 0·50	
	22	M	3–2	2 10·87	10·80	+ 0·07	31 54·90	52·80	+ 2·10	
	23	P	2–3	2 10·80	10·93	− 0·13	31 50·79	52·20	− 1·41	
	25	AC	...	2 11·06	11·21	− 0·15	31 50·59	51·20	− 0·61	
	29	AC	...	2 11·59	11·79	− 0·20	31 49·53	49·20	+ 0·33	
May	9	W	...	2 13·35	13·39	− 0·04	31 47·17	44·60	+ 2·57	
	11	C	2–3	2 13·80	13·73	+ 0·07	31 44·51	43·60	+ 0·91	
	14	M	3–2	2 14·23	14·21	+ 0·02	31 45·62	42·40	+ 3·22	
	15	JP	2–3	2 14·24	14·37	− 0·13	31 41·72	42·00	− 0·28	
	22	JP	2–3	2 15·47	15·47	0·00	31 39·57	39·60	− 0·03	
	23	M	3	2 15·55	15·63	− 0·08	31 40·70	39·20	+ 1·50	
	28	AC	...	...	...	...	31 38·00	37·60	+ 0·40	
	29	M	2–3	2 16·20	16·43	− 0·23	31 37·23	37·20	+ 0·03	

Digitized by Google

Date.		Observer.	Definition.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Diameter. Observed.	Diameter. N.A.	Corr. to N.A.	Notes.
1891.				m s	s	s	′ ″	″	″	
June	1	W	...	2 16·66	16·77	− 0·11	31 36·18	36·40	− 0·22	
	8	M	3	2 17·51	17·44	+ 0·07	31 37·26	34·60	+ 2·66	
	9	W	...	2 17·50	17·52	− 0·02	31 33·30	34·40	− 1·10	
	10	AC	...	2 17·42	17·60	− 0·18	31 34·67	34·20	+ 0·47	
	16	M	3	2 17·70	17·88	− 0·18	31 33·28	33·20	+ 0·08	*u.*
	19	JP	2–3	2 17·71	17·92	− 0·21	31 30·62	32·80	− 2·18	
	23	P	3–4	2 17·80	17·90	− 0·10	31 31·07	32·40	− 1·33	
	29	M	2–3	2 17·62	17·68	− 0·06	31 34·44	32·00	+ 2·44	
July	2	C	2	2 17·37	17·46	− 0·09	31 30·51	31·80	− 1·29	
	4	AC	...	2 17·20	17·30	− 0·10	31 32·09	31·80	+ 0·29	
	6	P	2–3	2 16·90	17·13	− 0·23	31 30·49	31·80	− 1·31	
	7	W	...	2 17·10	17·01	+ 0·09	31 35·85	32·00	+ 3·85	
	8	M	2	2 16·78	16·91	− 0·13	31 30·95	32·00	− 1·05	
	11	JP	3	2 16·44	16·57	− 0·13	31 28·02	32·20	− 4·18	
	15	C	3	2 15·92	16·03	− 0·11	31 32·20	32·60	− 0·40	
	16	JP	3	2 15·80	15·89	− 0·09	31 29·58	32·80	− 3·22	
	18	M	2–3	2 15·72	15·59	+ 0·13	31 37·74	33·00	+ 4·74	
	20	M	2–3	2 15·24	15·29	− 0·05	31 35·62	33·20	+ 2·42	
	30	W	...	2 13·68	13·63	+ 0·05	31 39·66	35·00	+ 4·66	
	31	AC	...	2 13·54	13·45	+ 0·09	31 39·08	35·40	+ 3·68	
August	7	P	2–3	2 12·07	12·23	− 0·16	31 34·94	37·20	− 2·26	
	11	W	...	2 11·54	11·57	− 0·03	31 39·94	38·60	+ 1·34	
	12	C	1–2	...	...	...	31 38·09	38·80	− 0·71	
	14	P	3	2 10·95	11·09	− 0·14	31 38·03	39·60	− 1·57	
	18	C	3	2 10·48	10·49	− 0·01	31 39·77	41·00	− 1·23	
	19	M	2–3	2 10·36	10·35	+ 0·01	31 42·64	41·40	+ 1·24	
	20	P	3	2 10·09	10·21	− 0·12	31 39·35	41·80	− 2·45	
	21	AC	...	2 10·19	10·07	+ 0·12	31 43·07	42·20	+ 0·87	
	27	C	...	2 9·29	9·31	− 0·02	31 44·21	44·60	− 0·39	
	31	M	3	2 8·85	8·89	− 0·04	31 47·60	46·40	+ 1·20	
September	5	W	...	...	...	...	31 49·06	48·80	+ 0·26	
	14	P	2–3	2 7·96	8·10	− 0·14	31 52·97	53·20	− 0·23	
	15	W	...	2 8·31	8·08	+ 0·23	31 55·65	53·80	+ 1·85	
	19	AC	...	2 8·10	8·08	+ 0·02	31 58·70	56·00	+ 2·70	
	21	C	2–3	2 8·06	8·12	− 0·06	31 56·84	57·00	− 0·16	
	24	M	2–3	2 8·20	8·22	− 0·02	31 59·63	58·60	+ 1·03	
	30	M	2–3	2 8·64	8·60	+ 0·04	32 4·99	1·80	+ 3·19	
October	2	C	3	2 8·69	8·77	− 0·08	32 2·58	2·80	− 0·22	
November	6	C	3–4	2 14·95	15·01	− 0·06	32 21·12	21·60	− 0·48	
	17	C	3	...	...	...	32 27·41	26·60	+ 0·81	
December	1	M	2–3	...	...	...	32 31·59	31·40	+ 0·19	
	8	C	3–4	2 21·60	21·63	− 0·03	32 36·77	33·40	+ 3·37	
	16	C	3–4	2 22·37	22·38	− 0·01	32 36·33	35·00	+ 1·33	
	17	M	3	2 22·52	22·44	+ 0·08	32 38·62	35·20	+ 3·42	

Digitized by Google

Date.		Observer.	Definition.	Diameter.		Corr. to N.A.	Diameter.		Corr. to N.A.	Notes.
				Observed.	N.A.		Observed.	N.A.		
1892.				m s	s	s	′ ″	″	″	
January	5	AC	3-4	2 21·90	21·75	+ 0·15	32 40·19	36·40	+ 3·79	
	6	W	3-4	2 21·90	21·63	+ 0·27	32 39·78	36·40	+ 3·38	
	7	C	3-4	2 21·62	21·49	+ 0·13	32 37·80	36·20	+ 1·60	
	13	M	3	2 20·69	20·59	+ 0·10	32 42·72	35·80	+ 6·92	
	21	M	3	2 18·99	19·05	− 0·06	32 36·99	34·60	+ 2·39	
	25	C	3	2 18·16	18·19	− 0·03	32 34·55	33·60	+ 0·95	
February	2	M	3-4	2 16·44	16·35	+ 0·09	32 37·49	31·60	+ 5·89	
	4	AC	...	2 15·88	15·89	− 0·01	32 30·31	31·00	− 0·69	
	5	W	...	2 15·77	15·67	+ 0·10	32 36·77	30·60	+ 6·17	
	9	C	3	2 14·98	14·75	+ 0·23	32 30·03	29·20	+ 0·83	
	10	AC	...	2 14·43	14·53	− 0·10	32 29·34	29·00	+ 0·34	
	11	M	3-4	2 14·56	14·33	+ 0·23	32 30·45	28·60	+ 1·85	
	13	JP	3-4	2 14·01	13·89	+ 0·12	32 27·84	27·80	+ 0·04	
	15	C	3	2 13·47	13·45	+ 0·02	32 26·13	27·00	− 0·87	
	17	M	2-3	2 13·09	13·03	+ 0·06	32 29·33	26·20	+ 3·13	
	19	AC	3	2 12·67	12·63	+ 0·04	32 25·91	25·40	+ 0·51	
	20	W	...	2 12·61	12·43	+ 0·18	32 28·28	24·80	+ 3·48	
	22	M	3	2 12·09	12·07	+ 0·02	32 28·29	24·00	+ 4·29	
	24	C	3	2 11·70	11·71	− 0·01	32 22·52	23·00	− 0·48	
	25	W	3	2 11·57	11·55	+ 0·02	32 29·32	22·60	+ 6·72	
March	2	M	3	2 10·87	10·61	+ 0·26	32 24·21	19·60	+ 4·61	
	3	JP	3-4	2 10·62	10·47	+ 0·15	32 21·83	19·20	+ 2·63	
	4	P	3	2 10·21	10·35	− 0·14	32 18·35	18·80	− 0·45	
	8	P	3-4	2 9·92	9·87	+ 0·05	32 16·50	16·80	− 0·30	
	9	C	3-4	2 9·87	9·77	+ 0·10	32 16·69	16·20	+ 0·49	
	17	P	3-4	2 9·11	9·14	− 0·03	32 10·66	12·00	− 1·34	
	23	C	3	2 9·08	8·94	+ 0·14	32 6·90	8·60	− 1·70	
April	1	JP	3-4	2 9·02	9·02	0·00	32 4·87	3·60	+ 1·27	
	2	P	3-4	2 9·03	9·06	− 0·03	32 1·89	3·00	− 1·11	
	5	W	...	2 9·19	9·20	− 0·01	32 1·01	1·40	− 0·39	
	7	C	3	2 9·27	9·32	− 0·05	31 59·28	60·40	− 1·12	c.
	8	JP	3-4	2 9·23	9·40	− 0·17	31 58·75	59·80	− 1·05	c.
	9	W	3-4	2 9·49	9·48	+ 0·01	31 60·48	59·20	+ 1·28	
	13	C	...	2 9·82	9·85	− 0·03	31 57·21	57·00	+ 0·21	
	14	W	...	2 9·96	9·95	+ 0·01	31 56·91	56·60	+ 0·31	
	20	JP	3-4	2 10·51	10·63	− 0·12	31 52·76	53·40	− 0·64	
	21	P	3-4	2 10·71	10·77	− 0·06	31 50·35	53·80	− 3·45	
	26	P	3-4	2 11·30	11·45	− 0·15	31 48·66	50·20	− 1·54	
	27	JP	3-4	2 11·50	11·59	− 0·09	31 51·41	49·80	+ 1·61	
	28	C	3	2 11·70	11·73	− 0·03	31 49·59	49·20	+ 0·39	
May	9	JP	3	2 13·38	13·51	− 0·13	31 46·05	44·40	+ 1·65	
	12	P	...	2 13·97	14·01	− 0·04	31 40·99	43·00	− 2·01	
	13	W	...	2 14·06	14·17	− 0·11	31 46·13	42·60	+ 3·53	
	14	C	2-3	2 14·33	14·33	0·00	31 40·83	42·20	− 1·37	
	16	JP	3	2 14·57	14·65	− 0·08	31 39·10	41·40	− 2·30	
	17	C	2-3	2 14·76	14·81	− 0·05	31 41·83	41·00	+ 0·83	
	19	W	...	2 14·95	15·13	− 0·18	31 41·36	40·20	+ 1·16	

Digitized by Google

Date.		Observer.	Definition.	Diameter.		Corr. to N.A.	Diameter.		Corr. to N.A.	Notes.
				Observed.	N.A.		Observed.	N.A.		
1892.				m s	s	s	′ ″	″	″	
May	25	C	...	2 16·05	15·99	+ 0·06	31 37·27	38·20	− 0·93	
	27	JP	3	2 16·20	16·25	− 0·05	31 37·44	37·60	− 0·16	
	28	P	2–3	2 16·19	16·39	− 0·20	31 33·90	37·20	− 3·30	
June	4	W	...	2 17·15	17·17	− 0·02	31 38·65	35·40	+ 3·25	
	7	JP	3	2 17·46	17·44	+ 0·02	31 36·45	34·80	+ 1·65	
	9	W	...	2 17·61	17·60	+ 0·01	31 33·45	34·40	− 0·95	
	13	W	3	2 17·78	17·82	− 0·04	31 33·57	33·60	− 0·03	
	16	W	...	2 17·87	17·90	− 0·03	31 34·83	33·00	+ 1·83	
	17	P	2–3	...	...	...	31 30·16	33·00	− 2·84	
July	1	C	2	2 17·39	17·48	− 0·09	31 31·30	31·80	− 0·50	
	7	JP	3	...	...	...	31 32·23	32·00	+ 0·23	
	8	P	2–3	2 16·64	16·83	− 0·19	31 29·66	32·00	− 2·34	
	11	C	2–3	...	...	...	31 32·29	32·20	+ 0·09	
	12	JP	2–3	2 16·18	16·35	− 0·17	31 34·53	32·40	+ 2·13	
	21	C	2–3	...	...	...	31 34·44	33·40	+ 1·04	
August	1	C	3–4	2 13·14	13·15	− 0·01	31 35·76	35·80	− 0·04	
	2	JP	3–4	2 12·99	12·97	+ 0·02	31 35·11	36·20	− 1·09	
	3	P	3	2 12·60	12·81	− 0·21	31 36·00	36·40	− 0·40	
	5	JP	3	2 12·23	12·45	− 0·22	31 35·52	37·00	− 1·48	c.
	11	P	3	2 11·32	11·45	− 0·13	31 38·95	38·80	+ 0·15	
	12	C	3–4	2 11·20	11·29	− 0·09	31 39·60	39·20	+ 0·40	
	13	JP	3–4	2 11·15	11·13	+ 0·02	31 40·29	39·40	+ 0·89	
	17	C	3	2 10·44	10·53	− 0·09	31 41·66	40·80	+ 0·86	
	20	C	3	2 9·97	10·11	− 0·14	...	...	...	
	29	P	3–4	2 8·88	9·03	− 0·15	31 45·71	45·80	− 0·09	t.
	30	C	2–3	2 8·90	8·93	− 0·03	31 46·05	46·40	− 0·35	
September	7	C	3–4	2 8·25	8·32	− 0·07	31 50·86	50·20	+ 0·66	
	19	P	4–3	2 7·97	8·12	− 0·15	31 52·16	56·40	− 4·24	
	20	P	3	2 8·02	8·14	− 0·12	31 55·18	56·80	− 1·62	

Digitized by Google

Right Ascension and Declination of the Sun.

Cape Mean Time.	Obs.	Right Ascension.		O—C.	Declination.		O—C.	Limbs.	Definition.	Remarks.	Day Corr.
		Observed.	Comp.		Observed.	Comp.					
1884. d h m s		h m s	s	s	° ′ ″	″	″				″
Feb. 16 0 14 18·5	P	21 57 43·74	43·88	−0·14	−12 26 28·6	28·0	−0·6		...	1	+0·2
19 0 14 4·7	M	22 9 19·55	19·55	0·00	−11 23 22·6	22·0	−0·6		...	1	+0·3
22 0 13 44·8	R	22 20 49·23	49·24	−0·01	−10 18 38·8	39·0	+0·2		...	1	+1·5
25 0 13 19·3	C	22 32 13·37	13·36	+0·01	− 9 12 31·7	30·6	−1·1		...	1	−1·1
26 0 13 9·8	M	22 36 0·39	0·22	+0·17	− 8 50 11·1	10·7	−0·4		...	...	...
Mar. 10 0 10 17·5	P	23 24 22·78	23·07	(−0·29)	− 3 50 22·6	29·3	(+6·7)		...	1	+0·4
12 0 9 45·3	R	23 31 43·57	43·52	+0·05	− 3 3 20·4	21·1	+0·7		...	1	−0·8
15 0 8 54·4	C	23 42 42·21	42·16	+0·05	− 1 52 23·3	24·4	+1·1		...	1,0	...
18 0 8 1·6	R	23 53 38·91	38·90	+0·01	− 0 41 20·8	18·8	−2·0		...	1	+0·7
20 0 7 25·6	R	...	...	...	+ 0 6 5·4	5·2	+0·2		...	...	...
22 0 6 49·3	M	0 8 12·58	12·66	−0·08	+ 0 53 25·8	25·9	−0·1		...	2	+0·9
25 0 5 54·3	R	0 19 7·15	7·25	−0·10	+ 2 4 14·7	14·3	+0·4		...	1	−0·3
27 0 5 17·6	C	0 26 23·38	23·55	−0·17	+ 2 51 12·4	13·8	−1·4		...	1	+0·3
29 0 4 41·0	P	0 33 39·83	39·94	−0·11	+ 3 37 57·3	59·7	−2·4		...	2,1	−0·1
Apr. 1 0 3 46·5	C	0 44 34·86	34·98	−0·12	+ 4 47 35·3	36·6	−1·3		...	1	+0·1
3 0 3 10·9	M	0 51 52·18	52·15	+0·03	+ 5 33 34·5	35·8	−1·3		...	1	−1·0
5 0 2 35·5	M	...	...	...	+ 6 19 10·8	11·3	−0·5		...	...	...
9 0 1 27·4	R	1 13 47·71	47·61	+0·10	+ 7 48 59·2	60·6	−1·4		...	1	−0·5
20 23 58 32·2	M	1 58 10·78	10·87	−0·09	+12 4 27·7	29·8	−2·1		...	2	+0·1
22 23 58 8·9	P	2 5 40·48	40·55	−0·07	+12 44 33·0	34·7	−1·7		...	2	+1·0
24 23 57 47·6	M	2 13 12·23	12·15	+0·08	+13 23 46·4	49·6	−3·2		...	1	+1·8
28 23 57 10·6	M	2 28 21·37	21·35	+0·02	+14 39 36·5	38·7	−2·2		...	2	+1·1
30 23 56 55·1	P	2 35 58·89	59·00	−0·11	+15 16 8·1	7·5	+0·6		...	2,1	+0·4
May 7 23 56 17·9	M	3 2 57·51	57·54	−0·03	+17 15 32·6	34·2	−1·6		...	1	+1·1
12 23 56 8·2	C	3 22 30·56	30·56	0·00	+18 32 21·7	21·4	+0·3		...	1	+0·2
18 23 56 15·8	C	...	...	...	+19 54 8·3	11·4	−3·1	N.	...	2	+0·6
27 23 57 4·1	C	4 22 34·96	34·94	+0·02	+21 33 51·6	51·3	+0·3		...	2	+0·9
June 6 23 58 38·9	C	5 3 35·35	35·53	−0·18	+22 49 6·5	6·6	−0·1		...	2,1	+0·7
9 23 59 13·3	P	5 15 59·68	59·87	−0·19	+23 3 57·3	59·2	−1·9		...	1,0	...
12 23 59 50·2	C	5 28 26·37	26·19	+0·18	+23 15 11·6	12·9	−1·3		...	1	+1·0
18 0 0 54·0	C	5 49 13·12	13·10	+0·02	+23 25 42·1	43·2	−1·1		...	1	+0·6
23 0 1 59·3	C	6 10 1·36	1·37	−0·01	+23 25 53·9	53·8	+0·1		...	2,1	−0·3
25 0 2 24·9	P	6 18 20·19	20·28	−0·09	+23 23 4·2	4·7	−0·5		...	3	+0·7
30 0 3 26·4	C	6 39 4·65	4·58	+0·07	+23 8 51·2	51·9	−0·7		...	2	+0·5
July 3 0 4 0·3	P	6 51 28·26	28·19	+0·07	...	...	...		...	1	...
5 0 4 21·2	C	6 59 42·36	42·36	0·00	+22 44 29·7	32·1	−2·4		...	3,2	+0·8
14 0 5 36·4	M	7 36 26·73	26·76	−0·03	+21 36 4·5	6·5	−2·0	II.	...	2	+0·9
16 0 5 48·2	P	7 44 31·73	31·70	+0·03	+21 16 45·1	45·5	−0·4		...	2	+0·2
28 0 6 13·8	P	8 32 16·02	16·03	−0·01	+18 51 24·9	25·2	−0·3		3-4	T 2	+0·7
30 0 6 9·7	C	8 40 5·14	5·06	+0·08	+18 22 36·0	38·9	−2·9	II.	...	2	+0·2
Aug. 1 0 6 3·1	P	8 47 51·53	51·61	−0·08	+17 52 40·0	40·4	−0·4		...	3,2	−0·5

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1884. d h m s		h m s	s	s	° ′ ″	″	″				″
Aug. 5 0 5 42·7	C	9 3 17·30	17·28	+0·02	+16 49 15·5	16·5	−1·0		...	2,1	+1·1
7 0 5 28·7	C	9 10 56·42	56·48	−0·06	+16 15 53·7	55·7	−2·0		...	2	+1·0
9 0 5 12·6	C	9 18 33·35	33·33	+0·02	+15 41 31·3	32·0	−0·7		...	2	−0·1
12 0 4 44·0	P	9 29 54·38	54·39	−0·01	+14 48 2·9	3·4	−0·5		...	1	−0·5
14 0 4 22·3	P	9 37 25·70	25·74	−0·04	+14 11 11·1	12·6	−1·5		...	1,0	...
16 0 3 58·7	C	9 44 55·11	55·05	+0·06	+13 33 23·7	27·0	−3·3		...	1	+1·6
19 0 3 19·3	C	...	...	...	+12 35 12·5	12·3	+0·2		...	1	−0·4
23 0 2 20·5	C	10 10 52·55	52·40	+0·15	+11 14 44·9	46·7	−1·8		3	d 1	+0·3
28 0 0 56·9	C	10 29 11·50	11·51	−0·01	+ 9 30 17·1	17·1	0·0		...	1	+1·0
Sept. 7 23 57 24·3	C	...	...	...	+ 5 28 5·1	5·9	−0·8		3	d ...	...
11 23 56 1·0	P	11 23 23·07	23·05	+0·02	+ 3 56 52·3	52·3	0·0		...	2,1	+1·4
15 23 54 36·8	C	11 37 44·77	44·71	+0·06	+ 2 24 28·6	29·9	−1·3		...	1,0	...
18 23 53 33·3	C	11 48 30·76	30·96	−0·20	+ 1 14 39·4	41·1	−1·7	S	...	1	+2·3
22 23 52 9·9	P	12 2 53·44	53·49	−0·05	− 0 18 49·5	48·5	−1·0	II. N	3–4	*p* 1	−0·2
28 23 50 9·0	P	12 24 31·43	31·51	−0·08	− 2 39 9·0	9·7	+0·7		...	T,c 2	+0·8
Oct. 1 23 49 11·3	C	12 35 23·28	23·55	−0·27	− 3 49 2·6	2·8	+0·2		...	2	+0·4
5 23 47 59·5	C	12 49 57·49	57·42	+0·07	− 5 21 35·0	34·4	−0·6		...	1	+1·9
16 23 45 18·9	P	13 30 38·49	38·49	0·00	− 9 29 17·4	18·4	+1·0	II.	...	2	+0·9
20 23 44 37·7	P	13 45 43·36	43·43	−0·07	−10 55 45·7	44·7	−1·0		3–4	*t*,c 1	+1·2
22 23 44 21·1	P	13 53 19·83	19·85	−0·02	−11 38 1·4	0·7	−0·7		3	2	−0·2
26 23 43 56·1	P	14 8 40·97	41·02	−0·05	−13 0 21·7	21·8	+0·1		3–4	T ...	...
28 23 43 48·0	P	14 16 25·99	25·98	+0·01	−13 40 20·5	20·4	−0·1		3–4	*p* 1	−0·3
Nov. 2 23 43 41·2	C	14 36 1·93	1·83	+0·10	−15 16 22·3	21·0	−1·3		...	2,1	0·0
3 23 43 42·1	P	14 39 59·41	59·43	−0·02	−15 34 50·2	49·6	−0·6		...	1	−0·3
16 23 45 13·4	P	15 32 46·17	46·24	−0·07	−19 9 13·6	13·1	−0·5		...	2	+1·0
20 23 46 10·4	P	15 49 29·55	29·55	0·00	−20 4 11·5	11·4	−0·1	I.	...	1	+1·3
24 23 47 19·9	P	16 6 25·43	25·40	+0·03	−20 53 16·8	16·1	−0·7		3–4	c 1	+2·7
30 23 49 25·1	P	16 32 10·33	10·53	−0·20	−21 55 2·6	2·1	−0·5		4–3	1,0	...
Dec. 3 23 50 36·7	P	16 45 11·77	11·77	0·00	−22 20 19·2	17·5	−1·7		3–4	T 1	+1·7
5 23 51 27·0	P	16 53 55·26	55·46	−0·20	−22 34 58·2	57·9	−0·3		...	1	+0·7
7 23 52 19·6	C	17 2 41·21	41·25	−0·04	−22 47 53·3	52·2	−1·1		...	1	0·0
8 23 52 46·5	P	17 7 4·72	4·87	−0·15	−22 53 38·7	39·1	+0·4		...	2,1	0·0
9 23 53 14·0	C	...	...	...	−22 58 58·5	58·8	+0·3		...	1	+1·1
12 23 54 38·6	M	17 24 43·37	43·44	−0·07	−23 12 14·1	13·5	−0·6		...	1	+1·0
16 23 56 35·7	M	...	...	...	−23 23 23·5	24·3	+0·8		2–3	u 1	0·0
17 23 57 5·3	C	17 46 53·28	53·42	−0·14	−23 25 2·0	1·8	−0·2		...	1	−0·1
18 23 57 35·3	P	17 51 19·93	19·95	−0·02	−23 26 10·9	11·2	+0·3		3–4	T 2	+0·4
22 23 59 35·5	M	18 9 6·65	6·58	+0·07	−23 26 5·2	6·0	+0·8		...	2	+0·9
29 0 2 33·0	C	18 35 43·98	44·04	−0·06	−23 11 51·1	50·9	−0·2		...	2,1	+0·2
30 0 3 1·9	M	18 40 9·54	9·57	−0·03	−23 7 50·9	50·2	−0·7		...	2	0·0
1885.											
Jan. 7 0 6 40·6	P	19 15 21·26	21·27	−0·01	−22 19 18·2	17·7	−0·5		3–4	T 1	−0·5
14 0 9 26·5	M	19 45 43·56	43·73	−0·17	−21 13 44·9	44·2	−0·7		...	1	+0·8
16 0 10 8·6	C	19 54 18·83	18·85	−0·02	−20 51 16·6	15·9	−0·7		3–4	*d* 2,1	+0·1
17 0 10 28·5	M	19 58 35·32	35·35	−0·03	−20 39 25·6	26·0	+0·4		...	3	+1·3
20 0 11 23·7	M	20 11 20·38	20·42	−0·04	−20 1 35·8	36·7	+0·9		3–4	3	+1·1

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1885. d h m s		h m s	s	s	° ′ ″	″	″				″
Jan. 22 0 11 56·8	C	20 19 46·68	46·61	+0·07	−19 34 31·0	31·2	+0·2		...	1	−1·2
23 0 12 12·1	M	20 23 58·58	58·51	+0·07	−19 20 25·8	25·7	−0·1		...	2	+1·6
26 0 12 53·0	P	20 36 29·29	29·31	−0·02	−18 36 3·9	3·0	−0·9		...	3	+0·6
29 0 13 26·6	C	20 48 52·59	52·65	−0·06	−17 48 39·3	38·9	−0·4		...	2	+0·4
31 0 13 44·9	M	20 57 4·09	4·06	+0·03	−17 15 27·6	27·1	−0·5		3-4	d 2	−0·4
Nov. 30 23 49 19·0	M	16 31 6·60	6·56	+0·04	−21 52 46·8	46·5	−0·3		4-3	T,D 4	−0·4
Dec. 7 23 52 13·6	P	17 1 37·55	37·51	+0·04	−22 46 23·4	22·8	−0·6		3-4	t,p 2,3	+0·7
13 23 55 0·9	M	17 28 4·61	4·80	−0·19	−23 14 55·7	55·1	−0·6		...	3	+0·5
15 23 55 59·1	P	17 36 56·11	56·27	−0·16	−23 20 44·5	44·4	−0·1		4-3	F 1,2	+0·4
17 23 56 58·3	C	17 45 48·55	48·50	+0·05	−23 24 41·9	41·5	−0·4		...	4	+0·9
21 23 58 57·4	C	18 3 34·20	34·22	−0·02	−23 26 57·1	56·8	−0·3		3-4	d 1	+0·5
22 23 59 27·1	M	18 8 0·63	0·73	−0·10	−23 26 19·6	19·8	+0·2		...	5	0·0
28 0 1 55·6	M	18 30 12·26	12·31	−0·05	−23 16 11·7	11·4	−0·3		...	4,2	0·0
30 0 2 54·0	C	18 39 3·92	3·91	+0·01	−23 8 50·9	51·3	+0·4		...	3,4	+0·8
1886.											
Jan. 4 0 5 14·9	C	19 1 8·03	7·96	+0·07	−22 42 27·6	26·8	−0·8		...	4	+1·9
6 0 6 8·4	P	19 9 54·76	54·89	−0·13	−22 28 43·5	42·7	−0·8		...	4,3	+2·1
7 0 6 34·6	M	19 14 17·64	17·65	−0·01	−22 21 12·9	10·7	−2·2		...	4,2	+0·2
12 0 8 36·9	P	19 36 3·02	3·14	−0·12	−21 36 61·3	59·9	−1·4		...	4	+1·9
13 0 8 59·6	M	19 40 22·60	22·41	+0·19	−21 26 53·4	53·4	0·0	II.	4-3	1	+0·4
15 0 9 42·9	P	19 48 58·86	58·93	−0·07	−21 5 27·9	26·4	−1·5		4-3	2	+2·1
19 0 11 1·0	P	20 6 3·40	3·45	−0·05	−20 17 45·1	44·9	−0·2		3-4	T 2	+1·6
21 0 11 35·6	C	20 14 31·17	31·25	−0·08	−19 51 36·0	35·6	−0·4		...	3	+1·0
23 0 12 7·2	M	20 22 56·02	55·98	+0·04	−19 23 57·1	57·6	+0·5		...	2	+0·9
30 0 13 32·9	C	20 51 57·81	57·87	−0·06	−17 36 17·2	17·2	0·0		...	2,1	+0·6
Feb. 1 0 13 50·2	P	21 0 8·37	8·35	+0·02	−17 2 39·2	36·5	−2·7	II.	...	2	+0·4
4 0 14 10·2	C	21 12 17·96	17·96	0·00	−16 9 51·3	51·8	+0·5		4-3	2	−0·2
6 0 14 19·3	M	21 20 20·21	20·25	−0·04	−15 33 19·0	17·9	−1·1		...	2	+0·6
8 0 14 25·3	C	21 28 19·32	19·29	+0·03	...	...	...		...	3	...
10 0 14 27·9	P	21 36 15·05	15·09	−0·04	−14 17 4·6	3·5	−1·1		...	3,2	+1·8
11 0 14 27·9	C	21 40 11·64	11·79	−0·15	−13 57 24·2	23·4	−0·8		4-3	3	+0·7
18 0 14 7·8	F	...	...	...	−11 33 44·5	42·2	−2·3		3-4	u ...	...
22 0 13 40·6	P	22 22 46·31	46·32	−0·01	−10 7 28·1	28·0	−0·1		...	3	+0·7
23 0 13 32·3	C	22 26 34·53	34·50	+0·03	− 9 45 30·7	30·2	−0·5		4-3	2	−0·2
24 0 13 23·1	F	22 30 21·89	22·10	−0·21	− 9 23 23·1	23·4	+0·3		3-4	u 3,1	+0·5
26 0 13 3·7	P	22 37 55·60	55·58	+0·02	− 8 38 44·8	44·8	0·0	II.	...	2	+0·3
27 0 12 53·2	M	22 41 41·49	41·50	−0·01	− 8 16 14·1	13·6	−0·5		...	3	−0·8
Mar. 1 0 12 30·6	C	22 49 11·91	11·78	+0·13	− 7 30 50·3	49·9	−0·4		...	3	+0·4
2 0 12 18·2	F	22 52 56·07	56·16	−0·09	− 7 7 59·2	58·1	−1·1		...	1,0	...
3 0 12 5·6	P	22 56 39·98	40·08	−0·10	− 6 45 1·1	0·3	−0·8		3-4	2	+0·6
4 0 11 52·4	M	23 0 23·32	23·52	−0·20	− 6 21 56·8	56·7	−0·1		...	1	−0·4
5 0 11 39·1	M	23 4 6·54	6·51	+0·03	− 5 58 48·6	47·8	−0·8		...	5,3	−1·3
10 0 10 25·3	F	23 22 35·32	35·35	−0·03	− 4 1 59·1	58·4	−0·7		3-4	u 7	+0·4
11 0 10 9·6	C	23 26 16·05	16·01	+0·04	− 3 38 26·4	26·3	−0·1		...	4	−0·1
16 0 8 45·8	P	23 44 34·81	34·77	+0·04	− 1 40 15·8	15·2	−0·6		...	5	+0·8
17 0 8 28·4	C	23 48 13·90	13·76	+0·14	− 1 16 34·2	33·7	−0·5		2	4	+0·1

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension.		O—C.	Declination.		O—C.	Limbs.	Definition.	Remarks.	Day Corr.
		Observed.	Comp.		Observed.	Comp.					
1886. d h m s		h m s	s	s	° ′ ″	″	″				″
Mar. 18 0 8 10·5	F	23 51 52·56	52·53	+0·03	− 0 52 52·2	51·8	−0·4		...	6	+0·1
20 0 7 34·5	C	23 59 9·58	9·55	+0·03	− 0 5 28·3	28·6	+0·3		2–1	2	+0·2
22 0 6 58·0	C	0 6 26·02	26·07	−0·05	+ 0 41 51·7	51·8	−0·1		3	3	−0·4
23 0 6 39·5	P	0 10 4·07	4·20	−0·13	+ 1 5 29·7	30·0	−0·3		...	*t* 5	+1·1
24 0 6 21·2	F	0 13 42·24	42·30	−0·06	+ 1 29 4·1	6·4	−2·3		...	5	+0·7
25 0 6 2·8	M	0 17 20·36	20·35	+0·01	+ 1 52 41·1	41·0	+0·1		3	7,6	−0·7
26 0 5 44·4	C	0 20 58·44	58·39	+0·05	+ 2 16 12·3	13·0	−0·7		3–4	5	0·0
29 0 4 49·1	M	0 31 52·64	52·67	−0·03	+ 3 26 30·3	31·0	−0·7		3–2	5	+0·4
31 0 4 12·7	P	0 39 9·23	9·16	+0·07	+ 4 13 3·3	4·3	−1·0		...	2	+0·1
Apr. 1 0 3 54·5	M	0 42 47·53	47·55	−0·02	+ 4 36 14·8	14·4	+0·4		2–3	4,3	+0·7
2 0 3 36·5	F	0 46 26·01	26·05	−0·04	+ 4 59 19·5	19·5	0·0		...	2	+0·3
5 0 2 43·3	F	0 57 22·38	22·46	−0·08	+ 6 8 1·3	1·8	−0·5		...	5,2	+1·4
6 0 2 26·1	M	1 1 1·73	1·61	+0·12	+ 6 30 43·4	43·7	−0·3		4–3	T 2	−0·2
7 0 2 8·9	C	1 4 40·96	40·96	0·00	+ 6 53 18·2	18·8	−0·6		3–4	5	+0·7
8 0 1 52·0	P	1 8 20·63	20·53	+0·10	+ 7 15 46·9	47·0	−0·1		...	3	0·0
9 0 1 35·2	M	1 12 0·30	0·33	−0·03	+ 7 38 7·0	7·8	−0·8		3	4	−0·4
10 0 1 18·8	C	1 15 40·33	40·36	−0·03	+ 8 0 21·3	20·8	+0·5	I.	...	2	+0·3
12 0 0 46·7	M	1 23 1·35	1·22	+0·13	+ 8 44 21·5	22·1	−0·6		2–3	c 3	+0·9
14 0 0 15·6	P	1 30 23·25	23·21	+0·04	+ 9 27 47·1	48·0	−0·9		...	5	+0·6
15 0 0 0·6	C	1 34 4·71	4·68	+0·03	+ 9 49 15·8	17·0	−1·2		...	3	+0·7
18 23 59 3·9	P	1 48 54·12	54·17	−0·05	+11 13 31·5	31·6	−0·1		...	4	+0·4
19 23 58 50·8	M	1 52 37·58	37·54	+0·04	+11 34 8·2	8·3	−0·1		3	1	−1·2
20 23 58 38·2	C	1 56 21·46	21·36	+0·10	+11 54 33·6	33·8	−0·2		...	5	+0·6
21 23 58 25·9	F	2 0 5·63	5·62	+0·01	+12 14 48·9	47·6	+1·3		...	4	+0·7
23 23 58 2·8	M	2 7 35·59	35·56	+0·03	+12 54 38·2	39·0	−0·8		3	5,4	+0·3
26 23 57 31·8	C	2 18 54·20	54·20	0·00	+13 52 50·4	50·6	−0·2		3	5	+0·1
29 23 57 5·6	M	2 30 17·62	17·51	+0·11	+14 48 59·7	59·8	−0·1		3–4	5,4	+0·2
May 9 23 56 13·8	C	3 8 51·23	51·10	+0·13	+17 39 33·2	33·8	−0·6		2	*f*,c 5	+0·4
11 23 56 10·0	F	3 16 40·51	40·48	+0·03	+18 10 16·1	17·5	−1·4		...	3	+0·4
12 23 56 8·9	P	3 20 35·97	35·99	−0·02	+18 25 11·3	11·9	−0·6		3–4	5,4	+0·6
13 23 56 8·4	C	3 24 31·96	32·08	−0·12	+18 39 44·6	47·7	−3·1		3–4	4	+0·1
14 23 56 8·6	M	...	...	...	+18 54 3·8	4·6	−0·8		3	m 1	−0·8
19 23 56 17·4	P	3 48 20·31	20·31	0·00	+20 0 35·4	36·4	−1·0		3	1	−0·2
20 23 56 20·8	F	3 52 20·35	20·31	+0·04	+20 12 53·8	54·5	−0·7		...	4,2	+0·6
24 23 56 40·0	M	4 8 25·78	25·71	+0·07	+20 58 36·5	37·9	−1·4		2	2,1	+0·8
31 23 57 32·7	C	4 36 54·54	54·44	+0·10	+22 4 38·4	39·0	−0·6		2	3	+0·6
June 6 23 58 33·8	P	5 1 35·12	35·07	+0·05	+22 46 19·1	19·5	−0·4		2	3	+0·7
8 23 58 56·5	C	5 9 50·98	51·01	−0·03	+22 57 0·9	2·7	−1·8		...	3,4	+0·1
10 23 59 20·2	C	5 18 7·85	7·86	−0·01	+23 6 7·5	9·0	−1·5	N.	...	1	−0·6
15 0 0 9·6	P	5 34 43·61	43·67	−0·06	+23 19 25·8	27·7	−1·9		2–3	3,4	+1·3
17 0 0 35·0	F	5 43 2·18	2·31	−0·13	...	...	...		...	6	...
19 0 1 0·8	C	5 51 21·16	21·27	−0·11	+23 26 11·3	11·8	−0·5		2	c 1,2	+0·6
24 0 2 5·5	P	6 12 8·85	8·82	+0·03	+23 25 18·3	19·3	−1·0		3	*f*,c 2	+1·3
26 0 2 30·9	M	6 20 27·43	27·45	−0·02	+23 22 4·7	4·8	−0·1		2	3,5	+0·4
29 0 3 8·0	C	6 32 54·36	54·42	−0·06	+23 14 7·6	8·4	−0·8		2	2,3	0·0
July 5 0 4 16·3	M	6 57 42·15	42·29	−0·14	+22 47 20·5	18·9	+1·6		...	6	+0·3
7 0 4 36·5	F	7 5 55·55	55·66	−0·11	+22 35 12·4	11·1	+1·3		...	5,4	0·0

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1886. d h m s		h m s	s	s	° ′ ″	″	″				″
July 9 0 4 55·0	M	7 14 7·20	7·43	−0·23	+22 21 29·9	29·4	+0·5		3–4	T 7,8	+0·2
10 0 5 4·0	P	7 18 12·77	12·68	+0·09	+22 14 0·8	3·7	−2·9		…	4	+1·3
13 0 5 27·2	M	7 30 25·54	25·70	−0·16	+21 49 29·6	29·8	−0·2	II.	3–4	T 5,6	+0·4
15 0 5 40·4	P	7 38 32·08	32·00	+0·08	+21 31 10·4	14·8	−4·4		…	3	+0·9
17 0 5 51·4	F	7 46 36·18	36·27	−0·09	+21 11 32·6	32·0	+0·6		…	5	+0·1
22 0 6 10·0	C	8 6 37·57	37·66	−0·09	+20 16 0·5	1·5	−1·0		4–3	4	+0·7
24 0 6 13·6	M	8 14 34·36	34·37	−0·01	+19 51 25·7	24·8	+0·9		3	d 4,5	0·0
26 0 6 14·9	P	8 22 28·76	28·82	−0·06	+19 25 28·9	28·5	+0·4		…	4	+0·3
28 0 6 14·0	C	8 30 20·96	20·99	−0·03	+18 58 14·9	14·7	+0·2		3–4	5	+0·8
30 0 6 10·9	F	8 38 10·98	10·79	+0·19	+18 29 49·6	45·8	+3·8		…	2	+1·3
31 0 6 8·2	C	8 42 4·79	4·80	−0·01	+18 15 1·2	3·8	−2·6		…	5,6	+0·7
Aug. 2 0 6 1·3	C	8 49 50·97	50·97	0·00	+17 44 46·6	46·6	0·0		…	3	−0·3
3 0 5 56·8	M	8 53 43·08	43·12	−0·04	+17 29 9·5	11·8	−2·3		3–4	T 2	0·0
4 0 5 51·8	P	8 57 34·62	34·65	−0·03	+17 13 19·7	20·0	−0·3		3	2,3	−0·1
5 0 5 46·3	C	9 1 25·63	25·56	+0·07	+16 57 11·1	11·5	−0·4		…	1	−0·3
11 0 4 59·9	M	9 24 18·38	18·29	+0·09	+15 14 45·4	46·2	−0·8		3	2,3	−0·2
12 0 4 50·0	C	9 28 5·08	5·02	+0·06	+14 56 48·8	49·1	−0·3		…	2	+0·8
13 0 4 39·6	F	9 31 51·19	51·18	+0·01	+14 38 38·1	37·8	+0·3		…	2	+0·1
19 0 3 26·3	C	9 54 16·98	16·92	+0·06	+12 44 45·7	46·6	−0·9		…	5	+0·1
20 0 3 12·2	M	9 57 59·38	59·49	−0·11	+12 25 3·7	3·7	0·0		3	u 5	+0·4
21 0 2 57·9	F	10 1 41·59	41·59	0·00	+12 5 9·6	8·9	+0·7		…	4,3	+0·4
31 23 59 53·1	C	10 41 58·38	58·34	+0·04	+ 8 14 32·4	33·5	−1·1		3–4	3,2	+0·7
Sept. 3 23 58 55·5	M	10 52 50·27	50·31	−0·04	+ 7 8 35·3	34·9	+0·4		3	t 3,2	−0·4
7 23 57 35·3	P	11 7 16·05	16·07	−0·02	+ 5 39 1·9	1·6	+0·3		…	4	+0·7
9 23 56 54·1	M	11 14 27·87	27·76	+0·11	+ 4 53 40·7	39·9	+0·8		2–3	6,5	−0·2
15 23 54 47·4	P	…	…	…	+ 2 35 45·8	45·8	0·0		…	…	…
17 23 54 5·0	C	11 43 10·77	10·66	+0·11	+ 1 49 21·0	19·5	+1·5		3–4	2	+0·7
19 23 53 22·5	P	11 50 21·27	21·35	−0·08	+ 1 2 44·5	43·6	+0·9		…	3	+0·7
20 23 53 1·5	M	11 53 56·74	56·82	−0·08	+ 0 39 23·2	22·6	+0·6		3–4	5	+0·4
24 23 51 38·6	M	12 8 19·84	19·93	−0·09	− 0 54 10·8	11·9	+1·1		2–3	2	−0·1
26 23 50 58·2	M	12 15 32·45	32·49	−0·04	− 1 41 0·3	0·9	+0·6		3–4	6,5	+0·5
27 23 50 38·3	P	12 19 9·02	9·07	−0·05	− 2 4 24·3	24·7	+0·4		…	3	+1·5
28 23 50 18·7	M	12 22 45·93	45·89	+0·04	− 2 27 46·4	47·3	+0·9		3	3	+1·6
29 23 49 59·2	C	12 26 22·93	22·96	−0·03	− 2 51 8·6	8·5	−0·1		…	2	+1·2
Oct. 3 23 48 44·1	C	12 40 53·82	54·03	−0·21	− 4 24 12·0	12·1	+0·1		2–3	c 1	+1·0
4 23 48 26·3	P	12 44 32·46	32·58	−0·12	− 4 47 20·1	20·7	+0·6		…	3	+1·1
5 23 48 8·9	C	12 48 11·56	11·49	+0·07	− 5 10 24·9	25·7	+0·8		…	2	0·0
6 23 47 51·5	M	12 51 50·55	50·78	−0·23	− 5 33 27·3	26·7	−0·6	II.	3	1	+0·8
11 23 46 31·8	C	13 10 13·49	13·60	−0·11	− 7 27 20·1	19·2	−0·9	II.	…	c 1	+1·4
19 23 44 51·7	C	13 40 5·57	5·58	−0·01	−10 23 51·6	52·5	+0·9		…	2	+0·5
26 23 43 58·5	M	14 6 48·14	48·03	+0·11	−12 50 29·1	28·6	−0·5		3–4	2,1	+1·1
31 23 43 42·5	C	14 26 14·83	14·87	−0·04	−14 29 21·4	20·6	−0·8		3–4	f,c 3,2	+0·8
Nov. 2 23 43 41·6	C	14 34 7·07	7·05	+0·02	−15 7 18·5	17·7	−0·8		4–3	p 4,3	+1·2
5 23 43 46·1	M	14 46 1·23	1·32	−0·09	−16 2 21·0	20·3	−0·7		…	4,3	−0·1
7 23 43 53·1	M	14 54 1·37	1·60	−0·23	−16 37 41·2	42·2	+1·0		3–4	d 3	+1·4
8 23 43 58·3	C	14 58 3·11	2·99	+0·12	−16 54 57·9	57·9	0·0		…	4	+0·6
11 23 44 17·8	M	15 10 12·32	12·22	+0·10	−17 44 59·0	59·6	+0·6		3	4,3	−0·3

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	R.A. O—C.	Declination. Observed.	Declination. Comp.	Dec. O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1886. d h m s		h m s	s	s	° ′ ″	″	″				″
Nov. 12 23 44 25·9	C	15 14 17·01	17·01	0·00	−18 1 4·1	3·7	−0·4		4–3	4	−0·6
14 23 44 45·0	C	15 22 29·26	29·16	+0·10	−18 32 15·8	15·0	−0·8		...	2	+0·5
15 23 44 55·5	M	15 26 36·42	36·53	−0·11	−18 47 22·9	21·5	−1·4		3–4	3	+0·3
16 23 45 7·4	C	15 30 44·89	44·74	+0·15	−19 2 10·1	8·0	−2·1		...	3	+0·5
21 23 46 18·0	F	15 51 38·45	38·52	−0·07	−20 10 47·3	47·3	0·0		..	3,2	+1·7
22 23 46 34·8	C	15 55 51·83	51·75	+0·08	−20 23 26·4	26·0	−0·4		4–3	*p* 3	+0·8
23 23 46 52·1	M	16 0 5·71	5·77	−0·06	−20 35 43·2	42·2	−1·0		3–4	1	+0·2
25 23 47 29·2	M	16 8 36·07	36·13	−0·06	−20 59 5·8	5·3	−0·5		...	2	+0·8
26 23 47 49·0	C	16 12 52·46	52·42	+0·04	−21 10 11·6	11·6	0·0		3–4	c 1	+0·5
28 23 48 30·5	M	16 21 27·16	27·11	+0·05	−21 31 11·8	12·1	+0·3		3–4	*d,t* 1	−0·2
29 23 48 52·4	C	16 25 45·75	45·48	+0·27	−21 41 5·7	5·6	−0·1		...	1,0	...
30 23 49 14·5	F	16 30 4·45	4·48	−0·03	−21 50 34·9	34·2	−0·7		3	2,1	+0·7
Dec. 1 23 49 37·6	C	16 34 24·10	24·11	−0·01	−21 59 37·5	37·6	+0·1		3–4	*d* 2,1	+0·4
2 23 50 1·0	M	16 38 44·21	44·32	−0·11	−22 8 16·0	15·5	−0·5		3–4	1	+1·8
5 23 51 15·3	P	16 51 48·31	48·36	−0·05	−22 31 33·3	34·0	+0·7		3–2	3	+0·9
6 23 51 41·1	C	16 56 10·73	10·75	−0·02	−22 38 27·9	27·4	−0·5		3–4	3,2	+1·6
7 23 52 7·2	M	17 0 33·51	33·61	−0·10	−22 44 54·1	54·2	+0·1		3–4	5	+0·6
10 23 53 28·7	C	17 13 44·88	44·84	+0·04	−23 1 33·1	32·7	−0·4		3–4	3,2	0·0
12 23 54 24·9	M	17 22 34·35	34·25	+0·10	−23 10 24·3	21·7	−2·6		3–4	*d,t* 3,1	−0·9
13 23 54 53·4	P	...	...	...	−23 14 4·5	4·7	+0·2		...	...	...
14 23 55 22·1	M	17 31 24·87	24·95	−0·08	−23 17 20·6	20·0	−0·6		3–4	t 4,1	+0·7
15 23 55 51·4	C	17 35 50·77	50·72	+0·05	−23 20 6·2	7·4	+1·2		4–3	2,1	+0·8
16 23 56 20·6	M	17 40 16·55	16·71	−0·16	−23 22 28·5	26·7	−1·8		3	2,1	+0·8
19 23 57 50·0	C	17 53 35·94	35·79	+0·15	−23 26 36·5	35·8	−0·7		...	1,0	...
20 23 58 19·9	M	17 58 2·42	2·39	+0·03	−23 27 3·2	2·3	−0·9		...	*f*,c 2	0·0
22 23 59 20·1	F	18 6 55·89	55·77	+0·12	...	...	...	I.	...	1	...
23 23 59 50·2	C	18 11 22·61	22·46	+0·15	−23 25 33·0	32·3	−0·7		3–4	D 4,3	+0·2
28 0 1 49·4	C	18 29 8·46	8·28	+0·18	−23 16 57·4	56·9	−0·5		3–4	c 2,1	+0·2
29 0 2 18·5	P	18 33 34·09	34·30	−0·21	−23 13 37·9	37·7	−0·2	I.	3–4	4	+0·3
1887.											
Jan. 6 0 6 2·2	M	19 8 50·95	51·00	−0·05	−22 30 29·7	29·7	0·0		3–4	6,5	+0·8
7 0 6 28·5	C	19 13 13·81	13·70	+0·11	−22 23 3·8	4·4	+0·6		...	3	−0·7
8 0 6 54·0	P	19 17 36·00	35·89	+0·11	−22 15 12·5	12·6	+0·1		...	2,1	+0·1
11 0 8 7·5	C	19 30 39·32	39·18	+0·14	−21 49 0·7	0·8	+0·1		3	2,1	+0·4
12 0 8 30·5	F	19 34 58·93	59·12	−0·19	−21 39 27·0	25·7	−1·3		...	3,2	+2·0
13 0 8 53·3	P	...	...	...	−21 29 25·8	25·4	−0·4		3–4	1	+0·2
14 0 9 15·5	M	19 43 37·17	37·16	+0·01	−21 18 58·1	60·2	+2·1		3–4	*p* 3,2	−0·2
15 0 9 36·9	C	19 47 55·19	55·22	−0·03	−21 8 11·3	10·4	−0·9		...	2	−0·3
18 0 10 37·3	M	20 0 45·45	45·42	+0·03	−20 33 16·2	16·1	−0·1		3–4	*t* 5	+1·0
19 0 10 56·0	C	20 5 0·73	0·77	−0·04	−20 20 50·8	50·9	+0·1		...	2,1	−0·4
21 0 11 31·4	C	20 13 29·39	29·28	+0·11	−19 54 52·3	51·8	−0·5		3–4	1	+1·1
27 0 12 58·6	P	20 38 36·13	36·19	−0·06	−18 28 13·0	11·9	−1·1		3–4	1	−0·8
29 0 13 21·3	C	20 46 51·99	51·98	+0·01	−17 56 37·3	34·6	−2·7		3–4	3,2	+0·9
31 0 13 40·5	F	20 55 4·34	4·42	−0·08	−17 23 39·5	40·4	+0·9		...	3	−0·2
Feb. 1 0 13 49·4	C	20 59 9·21	9·38	−0·17	−17 6 46·2	45·5	−0·7		3–4	3	+0·8
2 0 13 56·4	M	21 3 13·41	13·49	−0·08	−16 49 32·9	32·6	−0·3		3–4	3,2	+0·4
3 0 14 3·2	C	21 7 16·82	16·77	+0·05	−16 32 3·3	2·2	−1·1		....	2	+0·5
4 0 14 9·0	P	21 11 19·22	19·22	0·00	−16 14 16·2	14·7	−1·5		...	2	+0·9

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	R.A. O—C.	Declination. Observed.	Declination. Comp.	Dec. O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1887. d h m s		h m s	s	s	° ′ ″	″	″				″
Feb. 7 0 14 21·6	M	21 23 21·51	21·55	−0·04	−15 19 13·6	13·2	−0·4		4–3	3	+0·9
8 0 14 24·2	P	21 27 20·62	20·71	−0·09	−15 0 21·8	21·0	−0·8		2–3	3	+0·2
9 0 14 26·2	M	21 31 19·15	19·06	+0·09	−14 41 15·0	13·8	−1·2		...	*t* 4	+0·1
10 0 14 27·0	F	21 35 16·57	16·62	−0·05	−14 21 52·0	51·9	−0·1		...	2	−0·6
15 0 14 21·1	C	21 54 53·36	53·15	+0·21	−12 41 34·3	35·2	+0·9		2	c 3	−0·2
17 0 14 13·4	F	22 2 38·80	38·73	+0·07	−11 59 59·7	59·4	−0·3		3	2,0	...
18 0 14 8·6	M	22 6 30·51	30·49	+0·02	−11 38 54·0	54·1	+0·1		3	*d,t* 4,3	+0·6
19 0 14 3·1	C	22 10 21·57	21·57	0·00	−11 17 38·2	37·8	−0·4		...	3,2	+0·3
24 0 13 26·1	M	22 29 27·20	27·19	+0·01	− 9 28 46·5	45·6	−0·9		3–4	*d* 5,4	+0·9
25 0 13 16·9	C	22 33 14·51	14·45	+0·06	− 9 6 32·6	31·9	−0·7		3–4	4	+0·2
26 0 13 6·9	F	22 37 1·09	1·12	−0·03	− 8 44 11·1	10·1	−1·0		...	4,1	−0·6
Mar. 3 0 12 9·4	F	22 55 46·18	46·15	+0·03	− 6 50 34·4	33·8	−0·6		...	3,1	+0·5
5 0 11 42·8	C	23 3 12·65	12·59	+0·06	− 6 4 25·1	24·9	−0·2		...	2,0	...
8 0 10 59·6	M	...	...	...	− 4 54 36·9	35·9	−1·0	S.	...	*d* ...	...
9 0 10 44·4	C	23 18 0·21	0·21	0·00	− 4 31 11·5	11·5	0·0		...	3	+0·2
10 0 10 28·8	M	23 21 41·19	41·15	+0·04	− 4 7 44·7	43·7	−1·0		3–4	*t* 2	+0·2
11 0 10 13·1	C	23 25 22·02	21·74	+0·28	− 3 44 13·9	13·0	−0·9		3–4	2,1	+0·4
14 0 9 23·4	F	23 36 21·78	21·82	−0·04	− 2 33 26·1	25·6	−0·5		...	c 3,1	−0·1
16 0 8 49·3	M	23 43 40·75	40·64	+0·11	− 1 46 4·6	5·2	+0·6		4–3	5	−0·1
21 0 7 20·9	C	0 1 54·79	54·57	+0·22	+ 0 12 24·8	25·4	−0·6		...	1,0	...
22 0 7 2·5	M	0 5 32·92	32·96	−0·04	+ 0 36 6·0	6·1	−0·1		...	3	+0·5
23 0 6 44·3	M	0 9 11·25	11·27	−0·02	+ 0 59 45·2	45·5	−0·3		3–4	*d,t* 3,2	+1·6
26 0 5 49·4	F	0 20 5·80	5·86	−0·06	+ 2 10 31·8	32·2	−0·4		...	4	+0·8
28 0 5 12·7	M	0 27 22·11	22·14	−0·03	+ 2 57 30·8	30·1	+0·7		3–4	2	−0·8
29 0 4 54·4	C	0 31 0·35	0·30	+0·05	+ 3 20 52·0	53·9	−1·9		...	3,2	+0·4
30 0 4 35·9	P	0 34 38·31	38·49	−0·18	+ 3 44 11·7	13·9	−2·2		...	3,2	+1·2
Apr. 4 0 3 5·5	C	0 52 50·47	50·60	−0·13	+ 5 39 43·0	42·5	+0·5		3–4	2	+1·3
5 0 2 48·0	M	0 56 29·45	29·38	+0·07	+ 6 2 30·3	31·6	−1·3		3	4	+0·5
7 0 2 12·9	M	1 3 47·33	47·45	−0·12	+ 6 47 48·7	50·4	−1·7		3–4	*d* 2	+0·3
9 0 1 39·0	P	1 11 6·49	6·38	+0·11	+ 7 32 40·5	41·2	−0·7		3	3,2	+0·4
12 0 0 49·8	P	1 22 6·79	6·81	−0·02	+ 8 38 58·7	59·9	−1·2		3	3	+0·6
14 0 0 18·7	C	1 29 28·73	28·67	+0·06	+ 9 22 30·5	30·0	+0·5		2–3	3	+0·4
15 23 59 48·8	F	1 36 51·88	51·95	−0·07	+10 5 23·6	23·4	+0·2		3–4	c 2	+0·1
21 23 58 29·3	C	1 59 11·49	11·35	+0·14	+12 9 54·2	54·9	−0·7		...	4,3	+1·0
22 23 58 17·6	M	2 2 56·24	56·11	+0·13	+12 29 59·0	60·5	−1·5		...	c 1	+0·9
24 23 57 55·3	M	2 10 27·03	27·02	+0·01	+13 9 33·4	34·3	−0·9		3	4	+0·5
27 23 57 25·7	F	2 21 46·99	47·01	−0·02	+14 7 15·7	16·9	−1·2		2	4,3	+1·1
28 23 57 16·9	M	2 25 34·71	34·65	+0·06	+14 26 1·8	3·8	−2·0		3	4	+0·5
29 23 57 8·5	C	2 29 22·88	22·80	+0·08	+14 44 34·7	36·2	−1·5		2	4,1	+0·9
May 2 23 56 46·3	M	2 40 50·26	50·32	−0·06	+15 38 43·0	44·5	−1·5		2	4	+0·3
8 23 56 17·0	M	3 4 0·09	0·02	+0·07	...	...	...		...	5	...
9 23 56 14·0	C	3 7 53·71	53·64	+0·07	+17 35 41·5	44·4	−2·9		...	4,3	−0·3
10 23 56 11·6	M	3 11 47·86	47·86	0·00	+17 51 17·0	19·1	−2·1		3	6	+0·8
11 23 56 9·9	C	3 15 42·71	42·66	+0·05	+18 6 34·5	36·0	−1·5		2	5	+0·2
12 23 56 8·6	M	3 19 38·04	38·06	−0·02	+18 21 33·6	34·9	−1·3		3	5	+0·7
13 23 56 8·1	F	3 23 34·01	34·05	−0·04	+18 36 15·8	15·2	+0·6		...	2,1	+0·7
15 23 56 8·7	F	3 31 27·78	27·79	−0·01	+19 4 39·3	39·5	−0·2		2–3	5,4	+0·1
19 23 56 17·0	C	3 47 22·31	22·23	+0·08	+19 57 35·2	34·6	+0·6		2	4,3	+0·8

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	R.A. O−C.	Declination. Observed.	Declination. Comp.	Dec. O−C.	Limbs.	Definition.	Remarks.	Day Corr.
1887. d h m s		h m s	s	s	° ′ ″	″	″				″
May 20 23 56 20·4	M	3 51 22·32	22·26	+0·06	+20 9 55·9	58·1	−2·2		2	3	+1·0
24 23 56 39·5	M	4 7 27·66	27·71	−0·05	+20 56 2·7	3·6	−0·9		2–3	6,5	+0·1
26 23 56 52·1	M	4 15 33·35	33·44	−0·09	+21 16 59·5	58·0	+1·5		2	5	0·0
27 23 56 59·2	C	4 19 37·08	36·99	+0·09	+21 26 50·6	52·0	−1·4		2	3	−0·1
30 23 57 22·6	M	4 31 50·23	50·26	−0·03	+21 54 19·6	19·9	−0·3		1–2	6,4	+1·2
June 2 23 57 49·8	C	4 44 7·14	7·11	+0·03	+22 18 22·1	21·7	+0·4		...	6	−0·4
3 23 57 59·6	P	4 48 13·50	13·46	+0·04	+22 25 34·6	35·7	−1·1		2–3	4	+0·7
5 23 58 20·0	M	4 56 27·15	27·22	−0·07	+22 38 51·1	53·0	−1·9		3–2	6,5	+0·2
6 23 58 31·0	C	5 0 34·67	34·57	+0·10	+22 44 56·5	56·0	+0·5		3	5,4	+0·3
7 23 58 41·9	M	5 4 42·19	42·24	−0·05	+22 50 35·0	35·2	−0·2		3–4	T 5,4	+0·1
8 23 58 53·3	C	5 8 50·16	50·18	−0·02	+22 55 48·7	50·3	−1·6		...	4	−0·1
9 23 59 4·8	P	5 12 58·30	58·39	−0·09	+23 0 39·4	41·2	−1·8		2–3	5,4	+1·8
12 23 59 41·2	C	5 25 24·45	24·44	+0·01	+23 12 47·1	48·3	−1·2		2	4,5	+0·1
13 23 59 53·7	M	5 29 33·54	33·52	+0·02	+23 16 0·6	1·7	−1·1		2	5	+0·1
16 0 0 19·1	F	5 37 52·08	52·14	−0·06	+23 21 15·4	14·7	+0·7		...	4,5	−0·2
17 0 0 32·1	C	5 42 1·72	1·65	+0·07	+23 23 13·7	14·2	−0·5		...	5	0·0
18 0 0 44·8	M	5 46 11·02	11·25	−0·23	+23 24 46·5	48·9	−2·4		2	4,5	+1·0
20 0 1 11·2	C	5 54 30·57	30·60	−0·03	+23 26 43·7	44·1	−0·4		2	2,3	+0·6
22 0 1 37·4	M	6 2 49·95	50·00	−0·05	+23 26 58·8	60·1	−1·3		...	5	+0·7
23 0 1 50·5	F	6 6 59·63	59·65	−0·02	+23 26 30·5	31·0	−0·5		...	2,3	+0·3
25 0 2 16·3	M	6 15 18·60	18·67	−0·07	+23 24 17·2	18·4	−1·2		3	5,6	+1·4
27 0 2 41·7	F	6 23 37 23	37·14	+0·09	+23 26 26·9	26·8	+0·1		...	c 3	+0·7
29 0 3 6·2	M	6 31 54·96	54·90	+0·06	+23 14 56·7	56·8	−0·1		2–3	6,7	0·0
30 0 3 18·0	C	6 36 3·28	3·44	−0·16	+23 11 34·0	35·0	−1·0		3	6,5	0·0
July 4 0 4 3·3	P	6 52 34·94	34·97	−0·03	+22 54 4·5	5·2	−0·7		3	5,4	+1·4
5 0 4 13·8	M	6 56 42·08	42·10	−0·02	+22 48 42·1	42·6	−0·5		2	6	+0·7
13 0 5 25·0	P	7 29 25·85	25·86	−0·01	+21 51 38·0	38·3	−0·3		2–3	3	−0·2
14 0 5 32·1	F	7 33 29·54	29·46	+0·08	+21 42 46·4	47·2	−0·8		...	4	+0·9
18 0 5 55·4	C	7 49 39·16	39·03	+0·13	+21 3 42·7	42·1	+0·6		3–4	*d* 3,2	+0·5
19 0 5 59·8	P	7 53 40·14	40·15	−0·01	+20 53 1·9	1·8	+0·1		3	4	+0·6
21 0 6 7·2	M	8 1 40·62	40·76	−0·14	+20 30 40·4	37·8	+2·6		2	F,c 4	0·0
25 0 6 15·3	M	8 17 34·99	35·07	−0·08	+19 41 42·9	44·2	−1·3		2–3	6	+0·6
26 0 6 15·9	C	8 21 32·17	32·14	+0·03	+19 28 41·8	41·1	+0·7		2	4	+0·4
Aug. 1 0 6 6·0	F	8 45 1·53	1·58	−0·05	+18 3 45·1	45·5	−0·4		...	5,4	+0·2
2 0 6 2·1	M	8 48 54·19	54·32	−0·13	+17 48 32·7	32·8	−0·1		3	1	−0·9
3 0 5 57·7	C	8 52 46·33	46·45	−0·12	+17 33 2·4	2·7	−0·3		...	5,6	+0·8
6 0 5 41·0	P	9 4 19·22	19·20	+0·02	+16 44 51·2	50·9	+0·3		2–3	5	+0·4
8 0 5 26·7	M	9 11 58·05	58·10	−0·05	+16 11 21·1	21·2	−0·1		2	6,7	+0·6
10 0 5 10·3	M	9 19 34·73	34·71	+0·02	+15 36 48·2	48·9	−0·7		2	5,6	+0·6
11 0 5 1·2	C	9 23 22·15	22·18	−0·03	+15 19 8·4	10·0	−1·6		3–4	c 1,2	−0·3
15 0 4 19·6	C	9 38 26·62	26·67	−0·05	+14 6 9·3	9·6	−0·3		...	6	0·0
16 0 4 7·9	M	9 42 11·30	11·47	−0·17	+13 47 19·7	19·9	−0·2	II.	1–2	*f*,c 1	+0·8
19 0 3 29·8	C	9 53 22·95	22·86	+0·09	+12 49 32·7	33·0	−0·3	II.	2	2,0	...
20 0 3 16·0	F	9 57 5·62	5·67	−0·05	+12 29 52·5	52·5	0·0		...	3,1	−0·1
22 0 2 47·0	M	10 4 29·69	29·81	−0·12	+11 49 55·3	56·3	−1·0		3	*d* 4,3	+0·6
23 0 2 32·1	C	10 8 11·27	11·19	+0·08	+11 29 41·2	41·2	0·0		3–4	5	+0·4
29 0 0 52·2	F	10 30 10·36	10·37	−0·01	+ 9 24 32·7	33·4	−0·7		3–2	c 1	+1·2
30 0 0 34·4	M	10 33 49·10	48·85	+0·25	+ 9 3 9·2	9·0	+0·2		3	1	−0·8

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1887. d h m s		h m s	s	s	° ′ ″	″	″				″
Aug. 31 0 0 15·8	C	10 37 26·98	27·00	−0·02	+ 8 41 35·9	36·0	−0·1		3	2	−0·3
31 23 59 57·1	F	10 41 4·82	4·83	−0·01	+ 8 19 56·5	54·6	+1·9		...	3, 2	−0·2
Sept. 1 23 59 38·3	C	10 44 42·33	42·35	−0·02	+ 7 58 6·2	5·3	+0·9		...	3,2	+0·3
4 23 58 39·6	M	...	...	...	+ 6 51 49·9	52·4	−2·5	N.	...	4	+0·2
5 23 58 19·6	F	10 59 9·79	9·80	−0·01	+ 6 29 34·2	34·0	+0·2		4–3	5	−0·3
6 23 57 59·4	C	11 2 46·14	46·12	+0·02	+ 6 7 9·6	9·2	+0·4		2	4,3	−0·9
13 23 55 34·4	F	11 27 56·54	56·50	+0·04	+ 3 27 41·2	41·0	+0·2		3	3	0·0
14 23 55 13·2	M	...	...	...	+ 3 4 37·8	36·0	+1·8		...	1	+1·1
16 23 54 31·0	F	11 38 42·70	42·74	−0·04	+ 2 18 17·1	15·7	+1·4		4–3	3,2	0·0
19 23 53 28·0	C	11 49 29·15	28·99	+0·16	+ 1 8 26·5	25·1	+1·4		...	4,3	−0·4
20 23 53 6·7	M	11 53 4·30	4·49	−0·19	+ 0 45 5·4	4·2	+1·2	II.	3	5	+0·6
21 23 52 45·8	F	11 56 39·93	40·04	−0·11	+ 0 21 41·1	42·0	−0·9		3	3,1	+1·0
22 23 52 25·0	M	12 0 15·65	15·70	−0·05	− 0 1 40·7	41·3	+0·6		2–3	*u* 5	+1·0
23 23 52 4·4	C	12 3 51·50	51·45	+0·05	− 0 25 4·3	5·3	+1·0		...	2	−0·5
26 23 51 2·9	F	12 14 39·50	39·55	−0·05	− 1 35 17·0	17·8	+0·8		...	4,3	+0·1
27 23 50 42·7	M	12 18 15·82	15·93	−0·11	− 1 58 40·2	40·9	+0·7		3	u 4	+0·7
30 23 49 43·7	M	12 29 6·26	6·46	−0·20	− 3 8 43·1	42·9	−0·2		3–4	*p,t* 2	+0·6
Oct. 2 23 49 5·9	M	12 36 21·53	21·54	−0·01	− 3 55 13·6	14·6	+1·0		3	4	+0·4
4 23 48 29·2	M	12 43 37·79	37·95	−0·16	− 4 41 35·0	35·4	+0·4		3	2	+0·8
5 23 48 11·6	C	12 47 16·75	16·71	+0·04	− 5 4 40·1	40·9	+0·8		3–4	2,1	+0·2
9 23 47 5·0	C	13 1 56·16	56·02	+0·14	− 6 36 21·4	21·9	+0·5		...	4,3	+0·3
11 23 46 34·5	C	13 9 18·63	18·49	+0·14	− 7 21 42·3	42·8	+0·5		...	4	−0·1
12 23 46 19·8	M	13 13 0·53	0·51	+0·02	− 7 44 14·6	14·5	−0·1		3–2	5	+0·5
13 23 46 5·9	C	13 16 43·06	43·06	0·00	− 8 6 39·6	39·8	+0·2		...	2	−1·5
19 23 44 54·3	C	13 39 10·66	10·43	+0·23	−10 18 37·0	37·1	+0·1		...	5,4	−0·3
20 23 44 44·4	M	13 42 57·19	57·12	+0·07	−10 40 (4·4)	7·0	(+2·6)		4–3	s,c,*p* 4	+1·5
24 23 44 11·5	M	13 58 10·43	10·48	−0·05	−12 4 25·6	26·7	+1·1		3–4	4	+0·7
25 23 44 5·2	C	14 2 0·70	0·53	+0·17	−12 25 4·4	4·7	+0·3		3–4	4,2	0·0
26 23 43 59·4	M	14 5 51·40	51·29	+0·11	−12 45 30·5	31·0	+0·5		3–4	1	+0·9
27 23 43 54·3	C	14 9 42·88	42·79	+0·09	−13 5 45·5	45·4	−0·1		3–4	4,2	+0·2
28 23 43 49·8	M	14 13 34·90	35·05	−0·15	−13 25 47·8	47·5	−0·3		3–4	*d,t* 5	−0·2
31 23 43 41·9	C	14 25 16·70	16·41	+0·29	−14 24 35·6	35·4	−0·2		3	4,3	−0·1
Nov. 2 23 43 40·1	C	14 33 7·93	8·00	−0·07	−15 2 38·0	38·4	+0·4		...	5,4	−0·5
3 23 43 40·7	M	14 37 5·14	5·03	+0·11	−15 21 20·4	18·0	−2·4		3–4	6,4	+0·9
4 23 43 42·1	C	14 41 3·04	2·89	+0·15	−15 39 43·5	42·6	−0·9		3–4	4,3	−0·1
6 23 43 47·2	C	14 49 1·31	1·16	+0·15	−16 15 45·0	45·0	0·0		...	4	−0·2
7 23 43 50·9	M	14 53 1·54	1·58	−0·04	−16 33 21·3	21·8	+0·5		...	4	+0·6
9 23 44 1·2	M	15 1 5·01	5·01	0·00	−17 7 44·9	45·2	+0·3		2–3	2	+0·7
11 23 44 15·0	M	15 9 11·95	11·93	+0·02	...	...	...		...	1	...
13 23 44 32·2	M	15 17 22·29	22·31	−0·02	−18 12 58·5	58·5	0·0		...	4	−0·3
14 23 44 42·1	C	15 21 28·78	28·78	0·00	−18 28 30·2	30·1	−0·1		...	4	−0·1
15 23 44 52·9	M	15 25 36·16	36·11	+0·05	−18 43 42·6	42·2	−0·4		2–3	6,5	+0·3
16 23 45 4·7	C	15 29 44·54	44·28	+0·26	−18 58 34·1	34·3	+0·2		...	3,2	+0·7
18 23 45 30·2	C	15 38 3·21	3·08	+0·13	−19 27 16·9	17·0	+0·1		3–4	3,2	−0·7
20 23 45 59·2	C	15 46 25·40	25·12	+0·28	−19 54 35·6	35·2	−0·4		...	3	+0·3
21 23 46 14·5	M	15 50 37·33	37·31	+0·02	−20 7 42·0	41·7	−0·3		3	3	+1·9
22 23 46 31·1	C	15 54 50·51	50·28	+0·23	−20 20 25·0	25·8	+0·8		...	3	+1·2
23 23 46 47·9	M	15 59 3·90	4·01	−0·11	−20 32 47·7	47·4	−0·3		3–4	t 2,1	+1·7

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1887. d h m s		h m s	s	s	° ′ ″	″	″				″
Nov. 25 23 47 24·4	M	16 7 33·64	33·73	−0·09	−20 56 21·1	21·3	+0·2		3–4	4	+0·8
27 23 48 3·9	M	16 16 6·37	6·35	+0·02	−21 18 21·5	20·8	−0·7		2–3	T 4,3	+1·2
28 23 48 24·8	C	16 20 23·92	23·73	+0·19	−21 28 44·1	44·4	+0·3		...	2,1	−2·4
29 23 48 45·9	M	16 24 41·63	41·78	−0·15	−21 38 44·5	43·5	−1·0		...	3	+0·6
Dec. 1 23 49 30·7	M	16 33 19·65	19·89	−0·24	−21 57 28·3	27·0	−1·3		3–4	3,2	+0·9
2 23 49 54·3	C	16 37 39·82	39·90	−0·08	−22 6 11·2	10·9	−0·3		3–4	3	−0·3
5 23 51 8·0	M	...	...	...	−22 29 47·6	48·0	+0·4		...	3	+1·0
6 23 51 33·8	C	16 55 5·85	5·84	+0·01	−22 36 48·5	48·1	−0·4		...	4,3	+0·5
8 23 52 26·8	C	17 3 52·11	52·02	+0·09	−22 49 29·4	28·1	−1·3		3–4	3,2	+0·1
9 23 52 53·7	M	17 8 15·63	15·83	−0·20	−22 55 8·6	7·8	−0·8		3–4	*t* 6,4	+1·1
11 23 53 49·4	M	17 17 4·60	4·71	−0·11	−23 5 6·2	5·6	−0·6		3	4	+0·1
12 23 54 17·9	C	17 21 29·78	29·74	+0·04	−23 9 23·4	23·5	+0·1		...	3	−0·5
13 23 54 46·7	M	17 25 55·21	55·08	+0·13	−23 13 13·6	13·5	−0·1		3–4	2,0	...
14 23 55 15·7	C	17 30 20·79	20·73	+0·06	−23 16 36·4	35·8	−0·6		...	3,1	+0·6
15 23 55 44·9	M	17 34 46·69	46·62	+0·07	−23 19 29·6	30·3	+0·7		2–3	*t* 4,3	+0·5
16 23 56 14·5	C	17 39 12·77	12·73	+0·04	−23 21 56·8	56·8	0·0		...	3,2	+0·2
20 23 58 13·9	C	17 56 58·72	58·54	+0·18	−23 27 2·1	0·6	−1·5		3–4	5,4	0·0
21 23 58 43·8	M	18 1 25·27	25·17	+0·10	−23 27 8·0	4·8	−3·2		3	u 1	+0·3
22 23 59 13·9	C	18 5 52·01	51·79	+0·22	−23 26 42·5	42·7	+0·2		...	2	−0·1
23 23 59 43·5	M	18 10 18·21	18·39	−0·18	−23 25 52·2	51·2	−1·0		...	1	−0·6
28 0 1 42·2	M	18 28 3·58	3·75	−0·17	−23 17 43·2	42·6	−0·6		3	2,1	−0·3
1888.											
Jan. 4 0 5 1·7	C	18 58 59·52	59·62	−0·10	−22 45 32·8	32·6	−0·2		3–4	c 4,3	+0·3
5 0 5 28·8	M	19 3 23·35	23·40	−0·05	−22 39 7·3	7·1	−0·2		3	4,3	+0·5
6 0 5 55·9	C	19 7 46·98	46·77	+0·21	−22 32 14·4	14·7	+0·3		...	5,4	+0·8
9 0 7 13·1	M	19 20 54·12	54·12	0·00	−22 8 57·9	57·9	0·0		3–4	3,2	+0·9
10 0 7 37·8	C	19 25 15·43	15·56	−0·13	−22 0 20·4	19·8	−0·6	II.	...	1	+0·5
12 0 8 26·0	C	19 33 56·86	56·76	+0·10	−21 41 46·7	46·7	0·0		...	4	+0·3
13 0 8 48·9	M	19 38 16·41	16·47	−0·06	−21 31 52·9	52·1	−0·8		3	4	+0·1
16 0 9 54·3	C	19 51 11·67	11·63	+0·04	−20 59 40·6	40·0	−0·6		...	4,3	−0·4
17 0 10 14·8	M	19 55 28·73	28·63	+0·10	−20 48 8·2	7·4	−0·8		3–4	3,4	+1·6
18 0 10 34·3	C	19 59 44·84	44·91	−0·07	−20 36 11·6	11·1	−0·5		3	4,3	+0·5
19 0 10 53·0	M	20 4 0·15	0·44	−0·29	−20 23 53·4	51·4	−2·0		3–4	1	+1·8
24 0 12 16·3	F	20 25 6·54	6·53	+0·01	−19 16 35·0	34·7	−0·3		3	4,2	+0·9
26 0 12 43·9	C	...	...	...	−18 47 9·4	8·8	−0·6		2	2	+0·4
30 0 13 29·5	C	20 49 59·26	59·19	+0·07	−17 44 14·9	14·8	−0·1		...	3,4	0·0
Feb. 1 0 13 47·3	C	20 58 10·17	10·19	−0·02	−17 10 54·3	52·7	−1·6		...	2	0·0
4 0 14 8·1	M	21 10 20·67	20·62	+0·05	−16 18 35·3	34·3	−1·0		3–4	t 4	+0·2
6 0 14 17·9	P	21 18 23·64	23·62	+0·02	−15 42 18·5	16·5	−2·0		3	3	+1·7
9 0 14 26·8	C	21 30 22·21	22·18	+0·03	−14 45 49·5	49·8	+0·3		3–4	3,2	−0·1
10 0 14 28·0	M	21 34 20·02	20·13	−0·11	−14 26 31·8	30·6	−1·2		3–4	p 2	−0·3
11 0 14 28·6	P	21 38 17·17	17·30	−0·13	−14 6 57·5	57·0	−0·5		4–3	2	+0·2
14 0 14 26·0	C	21 50 4·23	4·18	+0·05	−13 6 54·3	53·9	−0·4		...	4,2	+0·4
15 0 14 23·5	P	21 53 58·29	58·29	0·00	−12 46 27·2	26·8	−0·4		3	4	+0·7
16 0 14 20·4	M	21 57 51·74	51·66	+0·08	−12 25 47·7	47·5	−0·2		3	2	+0·7
20 0 14 0·5	M	22 13 17·94	17·92	+0·02	−11 1 16·1	15·5	−0·6		3–4	*d* 3	+0·6
21 0 13 53·7	C	22 17 7·67	7·73	−0·06	−10 39 41·6	41·0	−0·6		3–4	4,3	0·0
23 0 13 38·4	M	22 24 45·42	45·40	+0·02	− 9 56 2·1	3·2	+1·1		3	4	0·0

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1888. d h m s		h m s	s	s	° ′ ″	″	″				″
Feb. 24 0 13 29·7	C	22 28 33·24	33·27	−0·03	− 9 34 1·4	0·6	−0·8		...	3	+0·2
28 0 12 49·0	P	22 43 38·72	38·78	−0·06	− 8 4 29·7	28 8	−0·9		3-4	3,2	+0·2
Mar. 1 0 12 25·6	C	22 51 8·35	8·26	+0·09	− 7 18 60·4	59·3	−1·1		...	3,2	+0·6
2 0 12 13·1	P	22 54 52·39	52·27	+0·12	− 6 56 5·3	4·9	−0·4		3-2	1	+0·2
3 0 12 0·1	M	22 58 35·82	35·83	−0·01	− 6 33 5·5	4·7	−0·8		2	3	+0·4
7 0 11 3·9	M	23 13 25·75	25·83	−0·08	− 5 0 10·5	11·7	+1·2		2-3	3	−0·4
8 0 10 49·0	P	23 17 7·36	7·37	−0·01	− 4 36 47·0	47·5	+0·5		3-4	1	−0·1
9 0 10 33·8	M	23 20 48·62	48·55	+0·07	− 4 13 27·8	19·8	(−8·0)		3	4	+0·5
10 0 10 18·1	C	23 24 29·41	29·41	0·00	− 3 49 49·3	48·7	−0·6		...	2	+0·1
12 0 9 45·9	C	23 31 50·23	50·18	+0·05	− 3 2 40·9	38·7	−2·2		...	3,2	+0·6
14 0 9 12·6	C	23 39 9·95	9·82	+0·13	− 2 15 21·3	20·6	−0·7		3	3	−0·2
15 0 8 55·4	M	23 42 49·24	49·26	−0·02	− 1 51 40·1	39·5	−0·6		2-3	2	−0·1
16 0 8 38·0	P	23 46 28·42	28·47	−0·05	− 1 27 58·0	57·4	−0·6	II.	3-4	1	+0·5
17 0 8 20·7	M	23 50 7·63	7·47	+0·16	− 1 4 15·7	14·8	−0·9		2	5	+0·9
19 0 7 45·0	M	23 57 24·89	24·92	−0·03	− 0 16 50·7	49·8	−0·9		2-3	2	+0·5
24 0 6 13·7	P	0 15 36·14	36·17	−0·03	+ 1 41 24·8	25·5	−0·7		3-2	5	+0·6
26 0 5 36·6	P	0 22 52·00	52·15	−0·15	+ 2 28 28·2	29·0	−0·8		4-3	3	+0·2
27 0 5 18·3	C	0 26 30·16	30·12	+0·04	+ 2 51 56·7	56·3	+0·4		...	4	+0·1
28 0 4 59·6	M	0 30 8·03	8·11	−0·08	+ 3 15 18·9	20·1	−1·2		2	3,2	0·0
29 0 4 41·4	C	0 33 46·28	46·14	+0·14	+ 3 38 39·0	40·1	−1·1		...	3	+0·4
Apr. 4 0 2 52·8	M	0 55 36·75	36·72	+0·03	+ 5 57 1·3	3·4	−2·1		3-4	4	+0·6
7 0 2 1·0	C	1 6 34·47	34·37	+0·10	+ 7 4 56·7	57·8	−1·1		...	4,2	+0·6
9 0 1 27·5	C	1 13 53·99	53·99	0·00	+ 7 49 37·6	39·0	−1·4		...	4	+1·0
10 0 1 11·3	P	1 17 34·22	34·20	+0·02	+ 8 11 45·1	48·0	−2·9		3-4	3	+1·3
13 0 0 24·1	P	1 28 36·61	36·60	+0·01	+ 9 17 22·8	24·6	−1·8		...	1	+0·8
15 23 59 39·9	M	1 39 41·94	41·96	−0·02	+10 21 35·3	38·0	−2·7		2	6	+1·2
19 23 58 46·2	M	1 54 34·29	34·25	+0·04	+11 44 49·9	50·3	−0·4	II.	2-3	*p* 3	+0·2
22 23 58 10·3	C	2 5 47·96	47·76	+0·20	+12 45 12·3	13·3	−1·0		3	3	−0·1
26 23 59 28·3	P	2 20 52·26	52·25	+0·01	+14 2 44·3	45·7	−1·4		3	2	+0·7
27 23 57 19·4	M	2 24 39·71	39·64	+0·07	+14 21 34·5	35·0	−0·5		3	2,1	+0·7
May 3 23 56 36·1	M	2 47 35·57	35·50	+0·07	+16 9 22·7	24·1	−1·4		2	4,3	+0·4
7 23 56 18·5	M	3 3 4·16	4·17	−0·01	+17 16 1·4	1·7	−0·3	II.	2-3	4	−0·3
8 23 56 15·6	P	3 6 57·83	57·80	+0·03	+17 31 58·1	58·8	−0·7		3-4	4	+0·1
13 23 56 9·6	M	3 26 34·59	34·61	−0·02	+18 47 14·3	15·7	−1·4		2	*c* 1	0·0
31 23 57 38·0	C	4 39 1·28	1·18	+0·10	+22 8 49·1	49·9	−0·8		2	5	+0·1
June 6 23 58 39·8	C	5 3 42·51	42·50	+0·01	+22 49 15·7	16·3	−0·6		2-3	5	+0·4
7 23 58 51·3	M	5 7 50·62	50·53	+0·09	+22 54 36·8	37·5	−0·7		1	6	+0·5
11 23 59 39·4	P	5 24 25·07	25·07	0·00	+23 11 59·8	0·1	−0·3		2	6	+0·3
18 0 0 55·9	P	5 49 21·11	21·19	−0·08	+23 25 47·1	47·1	0·0		3	3	−0·2
19 0 1 9·0	C	5 53 30·82	30·72	+0·10	+23 26 38·0	38·2	−0·2		3-4	3,4	+0·5
20 0 1 21·8	M	5 57 40·28	40·24	+0·04	+23 27 4·1	4·5	−0·4		2-3	*d* 4,5	+0·5
21 0 1 34·7	C	6 1 49·73	49·73	0·00	+23 27 4·7	5·8	−1·1		...	4	+0·1
30 0 3 26·1	C	6 39 10·46	10·70	−0·24	+23 8 47·2	47·3	−0·1		3-4	2	0·0
July 10 0 5 8·3	C	7 20 18·49	18·38	+0·11	+22 10 7·3	8·2	−0·9	I.	...	*f*,c 3	+0·9
12 0 5 23·9	P	7 28 27·27	27·30	−0·03	+21 53 44·7	44·7	0·0		2-3	4	+0·5
13 0 5 31·2	M	7 32 31·11	31·04	+0·07	+21 44 58·9	59·0	−0·1		2-3	5	+0·8

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension.		O—C.	Declination.		O—C.	Limbs.	Definition.	Remarks.	Day Corr.
		Observed.	Comp.		Observed.	Comp.					
1888. d h m s		h m s	s	s	° ′ ″	″	″				″
July 16 0 5 49·6	M	7 44 39·21	39·21	0·00	+21 16 30·5	29·2	+1·3		2–3	4	+0·5
17 0 5 54·7	P	7 48 40·92	40·86	+0·06	+21 6 15·0	15·6	−0·6		2–3	3	+0·7
18 0 5 59·2	C	7 52 41·98	41·97	+0·01	+20 55 39·8	40·6	−0·8		...	5,4	+0·5
20 0 6 6·6	C	8 0 42·47	42·49	−0·02	+20 33 27·2	27·3	−0·1		...	c 3,2	−0·4
23 0 6 13·5	C	8 12 39·10	38·96	+0·14	+19 57 32·6	33·1	−0·5		3	3	+0·9
Aug. 3 0 5 53·3	P	8 55 40·99	41·00	−0·01	+17 21 8·8	11·0	−2·2		2–3	2,3	+0·8
9 0 5 12·5	P	9 18 39·40	39·46	−0·06	+15 41 6·3	5·3	+1·0		3–4	4	+0·1
10 0 5 3·7	C	9 22 27·10	27·15	−0·05	+15 23 29·5	29·8	−0·3		...	3 4	+1·0
13 0 4 33·7	M	9 33 46·75	46·74	+0·01	+14 29 14·1	15·8	−1·7		3	5,6	+0·3
14 0 4 22·7	C	9 37 32·18	32·14	+0·04	+14 10 42·5	43·1	−0·6		...	2	0·0
16 0 3 58·8	P	9 45 1·32	1·28	+0·04	+13 32 56·3	57·5	−1·2		3	c 1	−0·8
17 0 3 46·0	P	9 48 45·05	45·06	−0·01	+13 13 44·0	45·3	−1·3		2–3	5	+0·7
18 0 3 32·9	C	9 52 28·46	28·30	+0·16	+12 54 20·8	20·6	+0·2		3–4	4,2	−0·4
21 0 2 49·8	P	10 3 35·08	35·08	0·00	+11 54 54·5	54·6	−0·1		3	6	+0·3
22 0 2 34·9	C	10 7 16·54	16·40	+0·14	+11 34 41·0	42·9	−1·9		...	5	−0·6
25 0 1 46·6	M	10 18 17·79	17·80	−0·01	+10 33 3·3	3·1	+0·2		2–3	4	−0·4
31 0 0 0·5	M	10 40 10·67	10·68	−0·01	+ 8 25 19·5	19·2	+0·3		2–3	6	+0·2
31 23 59 41·6	C	10 43 48·34	48·39	−0·05	+ 8 3 32·3	31·4	+0·9		...	3,2	+0·7
Sept. 3 23 58 43·8	P	10 54 40·03	39·97	+0·06	+ 6 57 20·7	21·7	−1·0		2–3	3,1	+0·6
5 23 58 4·1	C	11 1 53·30	53·18	+0·12	+ 6 12 40·1	40·4	−0·3		...	2,1	−0·1
12 23 55 39·4	C	11 27 4·06	3·96	+0·10	+ 3 33 18·5	18·7	−0·2		1–2	*f*,c 3	+0·3
14 23 54 57·0	M	11 34 14·72	14·61	+0·11	+ 2 47 7·6	7·5	+0·1		2–3	3	+0·5
16 23 54 14·3	P	11 41 24·97	25·08	−0·11	+ 2 0 43·4	44·1	−0·7	II.	3	4	+0·9
28 23 50 6·6	M	12 24 35·20	35·17	+0·03	− 2 39 35·0	34·4	−0·6		2–3	2	+0·6
Oct. 1 23 49 9·7	C	12 35 27·77	27·51	+0·26	− 3 49 29·7	28·7	−1·0		3	4	+1·3
2 23 48 51·0	P	12 39 5·60	5·60	0·00	− 4 12 42·1	42·2	+0·1		3–4	1	+0·5
3 23 48 32·9	C	12 42 43·98	44·05	−0·07	− 4 35 51·8	52·8	+1·0		3	3,1	−1·0
4 23 48 15·3	M	12 46 22·94	22·86	+0·08	− 4 58 59·0	60·1	+1·1		2–1	2	−0·5
8 23 47 8·5	M	13 1 2·16	2·12	+0·04	− 6 30 47·0	48·4	+1·4		3–2	3	−0·5
12 23 46 8·8	C	13 15 48·51	48·55	−0·04	− 8 1 13·2	12·8	−0·4		...	5,3	−0·2
15 23 45 29·3	P	13 26 58·59	58·74	−0·15	− 9 7 49·7	50·7	+1·0		2–3	4	+0·1
21 23 44 27·1	C	13 49 35·48	35·30	+0·18	−11 17 22·0	22·7	+0·7		3	4,2	−0·3
22 23 44 18·7	P	13 53 23·67	23·73	−0·06	−11 38 25·3	24·7	−0·6		3–4	3	+1·9
29 23 43 43·0	C	14 20 23·68	23·51	+0·17	−14 0 22·3	21·8	−0·5		...	5	−0·1
30 23 43 40·7	M	14 24 17·97	18·04	−0·07	−14 19 48·3	48·5	+0·2		2–3	3	+1·3
31 23 43 39·7	C	14 28 13·51	13·38	+0·13	−14 39 0·8	1·4	+0·6		3–4	*p* 4,3	+0·2
Nov. 7 23 43 54·2	M	14 56 3·98	3·88	+0·10	−16 46 31·9	31·8	−0·1		2–3	6	−0·5
11 23 44 20·7	M	15 12 16·71	16·70	+0·01	−17 53 16·3	15·4	−0·9		2–3	5	+1·1
13 23 44 38·8	M	15 20 27·98	28·09	−0·11	−18 24 44·9	46·2	+1·3		2–3	2	−0·4
18 23 45 38·9	P	15 41 11·03	11·17	−0·14	−19 37 44·6	44·9	+0·3		3	3,2	+0·3
19 23 45 53·5	M	15 45 22·20	22·27	−0·07	−19 51 17·1	18·0	+0·9		3–4	4	+0·1
22 23 46 42·1	C	15 58 0·59	0·43	+0·16	−20 29 46·4	45·7	−0·7		...	c 2	+0·9
26 23 47 57·3	M	16 15 2·22	2·25	−0·03	−21 15 43·3	42·8	−0·5		2–3	3	+0·2
27 23 48 17·9	P	16 19 19·47	19·57	−0·10	−21 26 12·5	12·8	+0·3		3–4	2,1	+0·5
29 23 49 1·5	C	16 27 56·26	56·34	−0·08	−21 45 59·1	59·3	+0·2		3–4	c 1	−0·2
Dec. 4 23 51 1·5	M	16 49 39·44	39·50	−0·06	−22 28 3·4	3·7	+0·3		2–3	5,4	+0·4

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension.		O—C.	Declination.		O—C.	Limbs.	Definition.	Remarks.	Day Corr.
		Observed.	Comp.		Observed.	Comp.					
1888. d h m s		h m s	s	s	° ′ ″	″	″				″
Dec. 6 23 51 53·3	P	16 58 24·47	24·66	−0·19	−22 41 51·9	51·0	−0·9		3–4	3,1	+0·5
7 23 52 20·0	C	...	...	...	−22 48 3·8	4·6	+0·8		3–4	2	−0·1
13 23 55 7·9	C	...	...	...	−23 15 52·4	52·3	−0·1		3	...	...
14 23 55 36·9	M	17 33 41·16	41·22	−0·06	−23 18 53·5	53·3	−0·2		3–2	5	+0·7
19 23 58 4·8	C	17 55 52·29	52·27	+0·02	−23 26 55·9	56·9	+1·0		3–4	3,2	−0·2
20 23 58 34·7	M	18 0 18·77	18·81	−0·04	−23 27 8·1	8·6	+0·5		2–3	4,2	+0·3
31 0 3 30·4	C	18 44 40·88	40·97	−0·09	−23 3 18·0	17·9	−0·1		3–4	4,3	+0·1
1889.											
Jan. 7 0 6 41·6	P	19 15 28·53	28·73	−0·20	−22 19 7·8	8·4	+0·6		3–4	1	+0·2
8 0 7 7·4	C	19 19 50·95	50·80	+0·15	−22 11 3·0	2·9	−0·1		...	3,2	−0·3
10 0 7 56·5	C	19 28 33·24	33·25	−0·01	−21 53 33·8	33·7	−0·1		3	4,3	0·0
11 0 8 20·1	P	19 32 53·54	53·58	−0·04	−21 44 10·2	10·6	+0·4		3	5	+0·6
17 0 10 28·7	P	19 58 41·79	41·82	−0·03	−20 39 11·2	11·4	+0·2		3–4	5,4	+0·4
18 0 10 47·9	C	20 2 57·56	57·42	+0·14	−20 26 58·5	57·7	−0·8		...	3	+0·6
19 0 11 5·9	P	20 7 12·17	12·29	−0·12	−20 14 21·4	20·8	−0·6		3	4	+0·1
23 0 12 11·5	P	20 24 4·16	4·23	−0·07	−19 20 10·2	8·7	−1·5		3	4	+0·7
24 0 12 26·4	C	20 28(15·68)	15·31	(+0·37)	−19 5 41·2	41·3	+0·1		3	3,2	−0·2
25 0 12 39·8	P	20 32 25·66	25·61	+0·05	−18 50 52·9	52·9	0·0		3–4	3	0·0
26 0 12 52·7	C	20 36 35·14	35·13	+0·01	−18 35 44·5	43·7	−0·8		...	2,1	−0·5
28 0 13 16·4	C	20 44 52·02	51·80	+0·22	−18 4 24·5	25·2	+0·7		...	3	+0·2
30 0 13 36·6	C	20 53 5·44	5·24	+0·20	−17 31 50·0	48·6	−1·4		...	3	+0·1
Feb. 4 0 14 12·7	M	21 13 24·42	24·36	+0·06	−16 4 59·3	58·3	−1·0		3–4	3	−0·1
9 0 14 28·4	C	21 33 22·89	22·75	+0·14	−14 31 14·0	14·0	0·0		3–4	2,1	+0·1
11 0 14 28·8	C	21 41 16·46	16·44	+0·02	−13 52 0·6	0·3	−0·3		...	5,2	−0·6
12 0 14 27·9	M	21 45 12·13	12·11	+0·02	−13 32 3·0	2·7	−0·3		3–4	1	+0·6
13 0 14 26·3	C	21 49 7·04	7·02	+0·02	−13 11 52·5	52·0	−0·5		3–4	3,2	+1·8
15 0 14 21·0	C	21 56 54·79	54·56	+0·23	−12 30 53·6	52·8	−0·8		...	4,3	+0·6
18 0 14 7·0	M	22 8 30·41	30·48	−0·07	−11 27 55·6	55·0	−0·6		2–3	4	+0·2
19 0 14 1·1	C	22 12 21·10	21·07	+0·03	−11 6 34·0	33·7	−0·3		...	4	+0·2
22 0 13 39·5	M	22 23 49·08	49·03	+0·05	−10 1 27·8	28·8	+1·0		2–3	5	+0·1
23 0 13 30·9	C	22 27 37·03	37·12	−0·09	− 9 39 28·2	28·1	−0·1		3–4	4,2	−0·1
27 0 12 51·5	C	22 42 43·74	43·79	−0·05	− 8 10 1·5	1·5	0·0		...	4	+0·4
28 0 12 40·4	M	22 46 29·16	29·09	+0·07	− 7 47 20·2	20·8	+0·6		2–3	4	+0·3
Mar. 4 0 11 50·5	M	23 1 25·36	25·28	+0·08	− 6 15 35·2	34·6	−0·6		2–3	3	+0·6
7 0 11 8·3	C	23 12 32·64	32·58	+0·06	− 5 5 51·2	49·5	−1·7		...	3,2	+0·7
8 0 10 53·4	M	23 16 14·26	14·19	+0·07	− 4 42 26·6	26·1	−0·5		2–3	3	+1·4
15 0 8 59·4	C	23 41 55·82	55·82	0·00	− 1 57 24·9	24·9	0·0		3	4,3	+0·2
16 0 8 42·0	M	23 45 34·91	34·93	−0·02	− 1 33 45·5	43·8	−1·7		3	3	+0·4
18 0 8 6·5	M	23 52 52·44	52·55	−0·11	− 0 46 20·9	20·5	−0·4		3–4	5	0·0
19 0 7 48·8	C	23 56 31·28	31·09	+0·19	− 0 22 38·6	38·8	+0·2		...	4,2	−0·3
22 0 6 54·1	M	0 7 26·06	26·07	−0·01	+ 0 48 22·0	22·5	−0·5		2–3	5	+0·4
23 0 6 35·7	P	0 11 4·11	4·23	−0·12	+ 1 11 59·8	60·6	−0·8		...	4	0·0
28 0 5 3·9	M	0 29 14·92	14·81	+0·11	+ 3 9 35·5	36·8	−1·3	II.	2	5	+0·8
Apr. 3 0 3 15·3	C	0 51 5·31	5·22	+0·09	+ 5 28 39·8	41·6	−1·8		3–4	4,3	+0·4
9 0 1 31·9	M	1 13 0·92	0·88	+0·04	+ 7 44 17·2	18·6	−1·4		2	4,3	+0·4
29 23 57 4·6	M	2 31 20·49	20·46	+0·03	+14 54 5·0	5·9	−0·9		2–3	3	+0·7

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Comp.	O—C.	Declination. Observed.	Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1889. d h m s		h m s	s	s	° ′ ″	″	″				″
May 10 23 56 11·8	M	3 13 49·71	49·58	+0·13	+17 59 19·0	20·8	−1·8		2–3	3	+0·5
12 23 56 9·4	M	3 21 40·34	40·25	+0·09	+18 29 15·1	17·4	−2·3		2–3	3	+0·7
22 23 56 31·2	C	4 1 27·77	27·79	−0·02	+20 39 39·2	39·0	+0·2		...	3	0·0
June 2 23 57 55·1	M	4 46 14·10	14·00	+0·10	+22 22 10·1	11·8	−1·7		2–3	3,2	+0·2
5 23 58 26·1	M	4 58 34·81	34·97	−0·16	+22 42 7·5	7·7	−0·2		2–3	4	+0·6
6 23 58 37·2	P	5 2 42·50	42·55	−0·05	+22 47 58·6	58·7	−0·1		3–4	2	+0·8
7 23 58 48·5	C	5 6 50·38	50·40	−0·02	+22 53 25·7	25·6	+0·1		...	4	+0·1
10 23 59 23·4	P	5 19 15·11	15·34	−0·23	+23 7 19·5	20·8	−1·3		3–4	2	+0·2
15 0 0 13·1	C	5 35 51·13	51·19	−0·06	+23 20 10·4	12·3	−1·9		3–4	3	+0·1
18 0 0 51·5	C	5 48 19·32	19·40	−0·08	+23 25 31·0	32·3	−1·3		...	3	+0·2
25 0 2 22·1	P	6 17 26·11	26·14	−0·03	+23 23 31·8	32·1	−0·3		3	2	−0·5
28 0 2 59·6	C	6 29 53·34	53·54	−0·20	+23 16 28·5	29·8	−1·3		...	2	+0·6
July 1 0 3 35·6	M	6 42 19·14	19·20	−0·06	+23 5 46·5	47·0	−0·5		3–4	4	+0·5
3 0 3 58·3	C	6 50 34·98	34·97	+0·01	+22 56 36·3	37·2	−0·9		2	4	+1·9
4 0 4 9·0	M	6 54 42·28	42·39	−0·11	+22 51 26·3	26·1	+0·2		2–3	c. 4	+0·3
9 0 4 57·8	C	7 15 13·95	13·93	+0·02	+22 19 35·3	35·9	−0·6		2	c. 2	+0·3
17 0 5 52·6	M	...	...	...	+21 8 49·2	49·7	−0·5		...	5	+0·4
18 0 5 57·2	P	7 51 42·64	42·74	−0·10	+20 58 17·1	20·0	−2·9	II. N.	3–4	3	0·0
22 0 6 10·9	C	8 7 42·44	42·42	+0·02	+20 12 49·5	50·5	−1·0		3	4	+0·3
23 0 6 12·7	M	8 11 40·90	40·97	−0·07	+20 0 37·1	36·6	+0·5		2–3	4	+0·3
24 0 6 14·1	P	8 15 38·81	38·95	−0·14	+19 48 2·8	2·8	0·0		...	2	+0·3
26 0 6 15·4	C	8 23 33·23	33·19	+0·04	+19 21 55·5	55·8	−0·3		3	4	+0·1
29 0 6 12·4	P	8 35 19·88	20·07	−0·19	+18 40 21·8	21·5	+0·3		...	1	−0·5
Aug. 2 0 6 0·3	M	8 50 54·00	54·00	0·00	+17 40 37·9	39·3	−1·4		2–3	4,3	+0·4
7 0 5 31·1	C	9 10 7·47	7·44	+0·03	+16 19 34·5	35·8	−1·3		2–3	3	+0·7
8 0 5 23·3	P	9 13 56·22	56·30	−0·08	+16 2 34·1	34·9	−0·8		3–2	2	−0·1
9 0 5 15·0	C	9 17 44·52	44·56	−0·04	+15 45 18·2	18·4	−0·2		3–2	1	−0·3
12 0 4 46·8	C	9 29 5·85	5·86	−0·01	+14 51 59·2	59·9	−0·7	II.	...	3,2	+0·1
16 0 4 1·4	M	9 44 6·58	6·61	−0·03	+13 37 37·6	37·2	+0·4		2–3	4	+0·6
17 0 3 48·7	P	9 47 50·35	50·54	−0·19	+13 18 27·8	28·1	−0·3		3–4	1	−1·4
21 0 2 53·7	C	10 2 41·42	41·45	−0·03	+11 59 46·9	47·5	−0·6		3–4	3,2	+0·1
22 0 2 38·7	M	10 6 23·00	23·05	−0·05	+11 39 37·2	37·9	−0·7		2	2	0·0
28 0 1 0·5	M	10 28 23·85	23·87	−0·02	+ 9 34 57·0	57·3	−0·3		2–3	3	0·0
30 0 0 24·7	C	10 35 41·08	41·10	−0·02	+ 8 52 6·8	6·9	−0·1		2	1	+0·3
Sept. 4 23 58 29·9	C	10 57 25·19	25·18	+0·01	+ 6 40 23·7	23·0	+0·7		...	3	+0·1
10 23 56 26·0	M	11 19 0·83	0·85	−0·02	+ 4 24 45·9	45·8	+0·1		3–2	4	+0·1
11 23 56 5·2	P	11 22 36·22	36·31	−0·09	+ 4 1 52·4	51·7	+0·7		3–4	2	+0·3
12 23 55 44·3	M	11 26 11·66	11·70	−0·04	+ 3 38 53·0	53·2	−0·2		2–3	3,2	+0·9
18 23 53 37·5	C	11 47 43·63	43·63	0·00	+ 1 19 49·7	48·8	+0·9	II.	...	3,2	+0·7
25 23 51 12·3	C	12 12 54·06	54·12	−0·06	− 1 23 54·1	53·7	−0·4		4–3	2,1	−0·3
29 23 49 53·3	M	12 27 21·05	21·07	−0·02	− 2 57 23·4	24·8	+1·4		2–3	3	+0·3
Oct. 1 23 49 15·2	M	12 34 35·97	36·04	−0·07	− 3 43 59·6	60·2	+0·6		2–3	3	+1·1
4 23 48 20·3	P	12 45 30·55	30·78	−0·23	− 4 53 32·0	32·3	+0·3		4–3	2	+0·6
8 23 47 12·7	C	13 0 8·96	8·97	−0·01	− 6 25 21·5	20·9	−0·6		3	2	+0·9
14 23 45 44·9	P	13 22 20·33	20·50	−0·17	− 8 40 23·5	23·5	0·0	II.	3–4	2	+1·0
18 23 44 58·1	C	13 37 19·58	19·60	−0·02	−10 8 4·2	4·8	+0·6		4–3	2	+1·1

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1889. d h m s		h m s	s	s	° ′ ″	″	″				″
Oct. 27 23 43 51·4	P	14 11 41·63	41·83	−0·20	−13 16 6·8	6·4	−0·4		2–3	c 3	+0·3
29 23 43 44·7	M	14 19 28·03	28·11	−0·08	−13 55 45 8	46·0	+0·2		2	2	−0·1
Nov. 4 23 43 42·7	M	14 43 5·40	5·62	−0·22	−15 49 9·2	9·4	+0·2		3–2	3	+1·3
10 23 44 10·6	M	15 7 12·71	12·81	−0·10	−17 33 2·7	3·5	+0·8	II.	2–3	2,1	−0·4
12 23 44 26·7	C	15 15 21·92	22·08	−0·16	−18 5 21·8	20·8	−1·0	II.	3–4	3	+0·7
20 23 46 5·3	M	15 48 33·35	33·44	−0·09	−20 1 23·2	22·6	−0·6	II.	...	p,c 3	+1·5
21 23 46 21·5	C	15 52 46·01	46·13	−0·12	−20 14 17·6	17·9	+0·3		3–4	2	−0·1
Dec. 4 23 50 55·5	M	16 48 36·02	36·13	−0·11	−22 26 19·1	19·7	+0·6		3–2	1	+0·6
5 23 51 20·8	C	16 52 57·95	58·13	−0·18	−22 33 32·3	32·4	+0·1		3–4	2,1	+0·2
8 23 52 39·9	M	17 6 6·96	7·12	−0·16	−22 52 30·2	31·0	+0·8		3–4	*p* 3	+1·5
28 0 1 56·8	C	18 30 19·98	20·10	−0·12	−23 16 12·8	12·9	+0·1		3–4	2	+0·4
30 0 2 55·1	C	18 39 11·59	11·70	−0·11	−23 8 51·5	51·3	−0·2		3–4	2	+0·4
1890.											
Jan. 10 0 7 49·4	C	19 27 28·80	28·97	−0·17	−21 55 49·7	50·0	+0·3	II.	3–4	2,1	−0·8
18 0 10 42·6	C	20 1 54·89	55·01	−0·12	−20 30 0·4	1·4	+1·0		3–4	2	+0·3
22 0 11 52·6	C	20 18 51·35	51·43	−0·08	−19 37 38·5	39·0	+0·5		3	2,1	+0·2
30 0 13 34·2	C	20 52 5·59	5·71	−0·12	−17 35 53·4	51·6	−1·8		3–4	2,1	0·0
Feb. 8 0 14 25·1	C	21 28 25·67	25·71	−0·04	−14 55 13·9	13·5	−0·4		2–3	2	+0·1
10 0 14 27·5	C	21 36 21·21	21·32	−0·11	...	...	...		...	2	...
20 0 13 56·1	C	22 15 15·30	15·36	−0·06	−10 50 18·0	18·2	+0·2		3–2	2	0·0
26 0 13 4·9	C	22 38 3·46	3·38	+0·08	− 8 38 2·6	1·5	−1·1		3	2,1	+0·1
Mar. 1 0 12 31·4	M	22 49 19·29	19·40	−0·11	− 7 30 6·1	5·9	−0·2		3–2	2	+1·0
5 0 11 39·5	M	23 4 13·48	13·54	−0·06	− 5 58 4·7	4·9	+0·2		3–2	2,1	+0·3
6 0 11 25·3	C	23 7 55·86	55·93	−0·07	− 5 34 51·6	51·7	+0·1		3	3,2	+0·7
7 0 11 10·8	M	23 11 37·81	37·92	−0·11	− 5 11 34·1	34·1	0·0		3–2	2	+0·2
8 0 10 55·9	C	23 15 19·47	19·50	−0·03	− 4 48 12·1	12·4	+0·3		3	2	−0·1
13 0 9 36·3	C	23 33 42·50	42·42	+0·08	− 2 50 35·3	35·2	−0·1	II.	3	3	0·0
21 0 7 16·7	M	0 2 54·92	54·88	+0·04	+ 0 18 56·9	57·7	−0·8		2–3	3	+0·4
24 0 6 22·1	M	0 13 49·75	49·75	0·00	+ 1 29 53·6	55·2	−1·6		2–3	3	0·0
31 0 4 13·3	C	0 39 16·45	16·63	−0·18	+ 4 13 53·1	54·5	−1·4		3–4	2	+0·5
Apr. 5 0 2 43·5	P	0 57 29·19	29·19	0·00	+ 6 8 47·5	47·6	−0·1		3–2	1	−0·5
8 0 1 51·6	M	1 8 26·80	26·81	−0·01	+ 7 16 29·3	29·8	−0·5		3–2	1	+1·7
14 0 0 15·1	P	1 30 29·38	29·40	−0·02	+ 9 28 27·6	28·1	−0·5		2	c 2	+0·3
15 23 59 45·6	AP	1 37 52·87	52·95	−0·08	+10 11 16·0	16·8	−0·8		3	c 1	−0·3
29 23 57 6·4	AP	2 30 25·03	25·14	−0·11	+14 49 41·9	43·1	−1·2		3	3	+0·6
30 23 56 58·7	C	2 34 13·84	13·88	−0·04	+15 7 55·7	56·5	−0·8		2–3	3,2	+0·6
May 1 23 56 51·5	P	2 38 3·17	3·13	+0·04	+15 25 54·1	54·9	−0·8		3–2	2	+0·6
2 23 56 44·7	AC	...	...	...	+15 43 35·4	37·9	−2·5		...	1	+0·2
13 23 56 8·3	M	3 24 38·54	38·58	−0·04	+18 40 17·2	17·8	−0·6		1–2	4	+0·3
22 23 56 30·7	AC	...	...	...	+20 36 57·1	58·7	−1·6		...	...	...
27 23 57 1·2	P	4 20 43·31	43·34	−0·03	+21 29 36·7	37·3	−0·6		2–3	4	+0·3
June 1 23 57 42·6	M	4 41 7·70	7·77	−0·07	+22 12 55·5	57·0	−1·5		...	4,1	+0·9
4 23 58 12·1	P	4 53 26·92	27·09	−0·17	+22 34 17·5	19·5	−2·0		...	3	+0·5

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1890. d h m s		h m s	s	s	° ′ ″	″	″				″
June 10 23 59 20·1	AC	5 18 14·42	14·44	−0·02	+23 6 24·8	22·8	+2·0		...	2,1	0·0
11 23 59 32·2	C	5 22 23·17	23·25	−0·08	+23 10 18·6	18·8	−0·2		2–3	3	+0·3
13 23 59 57·4	AP	5 30 41·55	41·45	+0·10	+23 16 56·9	57·2	−0·3		2–3	3	+0·2
16 0 0 23·0	AP	5 39 0·33	0·27	+0·06	+23 21 58·4	57·1	+1·3		3–4	2,1	+0·5
17 0 0 35·9	C	5 43 9·83	9·85	−0·02	+23 23 50·9	50·1	+0·8		3	4	+0·1
19 0 1 2·1	W	5 51 29·17	29·15	+0·02	+23 26 19·9	21·5	−1·6		...	3	+0·6
24 0 2 7·1	P	6 12 17·12	17·21	−0·09	+23 25 25·0	25·8	−0·8		3–4	5	−0·4
25 0 2 19·9	C	6 16 26·55	26·56	−0·01	+23 24 0·2	0·2	0·0		...	3	−0·4
26 0 2 32·4	AP	6 20 35·68	35·78	−0·10	+23 22 10·6	9·8	+0·8		2–3	3	+0·2
27 0 2 45·0	W	6 24 44·78	44·84	−0·06	+23 19 53·8	54·8	−1·0	S.	...	2	+0·4
28 0 2 57·3	M	6 28 53·72	53·71	+0·01	+23 17 12·8	15·3	−2·5		1–2	4	+1·1
July 4 0 4 6·0	AP	6 53 41·96	41·97	−0·01	+22 52 46·0	46·2	−0·2		2	4	+0·2
9 0 4 54·9	W	7 14 13·83	13·82	+0·01	+22 21 24·1	25·1	−1·0		...	5	+0·1
10 0 5 3·6	P	7 18 19·06	19·09	−0·03	+22 13 58·2	58·7	−0·5		2–3	4	−0·6
11 0 5 11·9	AC	7 22 23·94	23·95	−0·01	+22 6 7·7	9·4	−1·7		...	4	+1·3
17 0 5 52·1	AC	7 46 43·59	43·58	+0·01	+21 11 20·0	21·0	−1·0		...	2,1	0·0
21 0 6 8·5	P	8 2 46·15	46·32	−0·17	+20 27 34·7	34·6	+0·1		3	3	+0·2
24 0 6 14·8	AC	8 14 42·30	42·31	−0·01	+19 51 7·2	7·6	−0·4	I.	...	2	+0·4
25 0 6 15·8	W	8 18 39·70	39·77	−0·07	+19 38 17·1	18·6	−1·5		...	1	+0·1
Aug. 6 0 5 39·1	C	9 5 21·76	21·72	+0·04	+16 40 28·2	26·4	+1·8	II.	1–2	2,1	+0·9
9 0 5 16·7	M	9 16 48·92	48·94	−0·02	+15 49 35·1	34·7	+0·4		...	3	+0·2
13 0 4 39·1	C	9 31 57·39	57·40	−0·01	+14 38 12·6	12·9	−0·3		2	3	+0·4
14 0 4 28·2	AC	9 35 43·04	43·15	−0·11	+14 19 45·6	46·6	−1·0	II.	...	*t* 1	−0·4
15 0 4 16·9	AP	9 39 28·32	28·36	−0·04	+14 1 6·5	6·5	0·0		2–3	2	+1·1
18 0 3 39·8	C	9 50 40·73	40·81	−0·08	+13 3 47·0	47·0	0·0		3–4	2,1	−0·2
26 0 1 39·3	AP	10 20 12·38	12·51	−0·13	+10 22 12·6	12·9	−0·3		3–2	2	0·0
29 0 0 47·1	AC	10 31 9·69	9·77	−0·08	+ 9 18 47·2	47·3	−0·1		...	2,1	−0·1
30 0 0 29·0	C	10 34 48·19	48·14	+0·05	+ 8 57 20·7	20·7	0·0		3	1	+0·8
31 23 59 51·9	P	10 42 3·84	3·90	−0·06	+ 8 14 0·8	2·1	−1·3		...	1	−0·1
Sept. 1 23 59 32·7	M	10 45 41·30	41·35	−0·05	+ 7 52 10·3	10·6	−0·3		2	4	+0·3
5 23 58 14·2	AP	...	...	...	+ 6 23 30·6	30·9	−0·3		...	1	−0·7
9 23 56 52·4	M	11 14 32·96	33·06	−0·10	+ 4 53 7·3	8·2	−0·9		2–3	2	+1·1
12 23 55 49·9	W	...	...	...	+ 3 44 26·1	26·4	−0·3		...	1	+0·9
14 23 55 7·8	AC	...	...	...	+ 2 58 16·7	17·7	−1·0		...	1	+1·7
19 23 53 22·2	C	11 50 27·74	27·72	+0·02	+ 1 2 3·8	2·9	+0·9		...	2,0	...
25 23 51 17·4	W	...	...	...	− 1 18 16·4	15·8	−0·6		...	...	...
26 23 50 57·1	AC	...	...	...	− 1 41 40·6	39·2	−1·4		...	...	...
Oct. 7 23 47 32·4	P	12 55 34·92	35·09	−0·17	− 5 56 54·2	54·7	+0·5		...	2	−0·2
12 23 46 15·5	P	13 14 0·58	0·85	−0·27	− 7 50 23·0	23·2	+0·2		3–4	1	−1·1
30 23 43 41·9	AC	14 22 24·49	24·48	+0·01	−14 10 29·6	29·7	+0·1		...	2	+0·3
Nov. 2 23 43 38·9	M	14 34 11·17	11·34	−0·17	−15 7 45·7	44·3	−1·4		3–4	*d*,p2,1	+1·3
4 23 43 41·2	AP	14 42 6·55	6·73	−0·18	−15 44 38·8	40·9	+2·1		3–4	1	+1·9
5 23 43 43·7	W	14 46 5·63	5·69	−0·06	−16 2 47·2	46·1	−1·1		3	2	+1·0
7 23 43 51·0	AC	14 54 6·12	6·18	−0·06	−16 38 8·9	8·1	−0·8		...	2	−0·4
10 23 44 8·5	M	15 6 13·25	13·37	−0·12	−17 29 4·7	4·0	−0·7		3–4	*d*,*t* 4,2	+0·8
19 23 45 46·4	AP	15 43 20·44	20·62	−0·18	−19 44 53·4	52·1	−1·3		3–4	2	−0·4

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1890. d h m s		h m s	s	s	° ′ ″	″	″				″
Dec. 17 23 56 49·8	AC	17 44 49·33	49·55	−0·22	−23 24 30·1	30·2	+0·1		...	1	+0·4
31 0 3 14·8	C	18 42 30·58	30·69	−0·11	−23 5 39·4	38·8	−0·6		3-4	2	+0·8
1891.											
Jan. 12 0 8 30·1	P	19 35 5·48	5·80	−0·32	−21 39 19·7	19·5	−0·2		3	3	+0·2
14 0 9 15·5	M	19 43 44·11	44·19	−0·08	−21 18 51·3	51·9	+0·6	II.	3	3	+1·4
16 0 9 58·0	AC	19 52 19·87	19·86	+0·01	−20 56 46·0	46·0	0·0		...	1	−0·8
17 0 10 18·0	M	19 56 36·51	36·63	−0·12	−20 45 8·0	6·9	−1·1		2-3	3	+1·5
19 0 10 56·1	M	20 5 7·84	7·96	−0·12	−20 20 38·7	38·4	−0·3		2-3	2,1	+0·8
26 0 12 45·3	W	20 34 33·19	33·24	−0·05	−18 43 16·3	15·2	−1·1		3	2,1	+0·2
27 0 12 57·7	AC	20 38 42·19	42·24	−0·05	−18 27 56·0	56·0	0·0		...	*d* 1,2	+0·2
28 0 13 9·2	P	20 42 50·27	50·42	−0·15	−18 12 16·6	16·8	+0·2		3-4	c 3	+0·2
Feb. 2 0 13 55·2	AP	21 3 19·14	19·26	−0·12	−16 49 14·8	13·9	−0·9		3-4	1	+0·2
4 0 14 7·8	M	21 11 24·87	25·16	−0·29	−16 13 55·6	54·2	−1·4		3	1	+0·9
6 0 14 17·4	P	21 19 27·66	27·89	−0·23	−15 37 27·8	26·9	−0·9		3-4	3,2	−0·9
7 0 14 21·2	AC	21 23 28·12	28·05	+0·07	−15 18 49·9	49·0	−0·9		...	1	+0·2
11 0 14 27·4	W	21 39 20·46	20·75	−0·29	−14 1 46·1	45·6	−0·5		3-4	1,0	...
12 0 14 27·3	AP	21 43 16·86	16·94	−0·08	−13 41 55·6	54·0	−1·6		3-4	2	+0·6
14 0 14 24·1	AC	21 51 6·80	7·00	−0·20	−13 1 31·4	30·8	−0·6		...	1	+0·3
16 0 14 18·2	P	21 58 53·95	54·03	−0·08	−12 20 17·3	17·4	+0·1		2-3	2	+0·6
23 0 13 34·7	M	22 25 46·22	46·35	−0·13	−9 50 13·8	13·4	−0·4		3	1	+0·2
28 0 12 45·0	C	22 44 39·14	39·15	−0·01	−7 58 27·2	27·3	+0·1		3	1	+1·0
Mar. 2 0 12 21·3	W	22 52 8·46	8·54	−0·08	−7 12 54·6	53·4	−1·2		3-4	1	+0·3
3 0 12 8·7	AP	22 55 52·45	52·51	−0·06	−6 49 56·2	56·8	+0·6		3	2	−2·7
4 0 11 55·7	C	22 59 35·92	36·02	−0·10	−6 26 55·3	54·4	−0·9		3-4	2	−0·6
5 0 11 42·3	M	23 3 19·16	19·10	+0·06	−6 3 47·8	46·6	−1·2		2-3	1	+1·3
9 0 11 44·6	AC	23 18 7·45	7·41	+0·04	−4 30 28·9	28·3	−0·6		...	1	+2·2
10 0 10 29·1	M	23 21 48·43	48·56	−0·13	−4 6 59·3	58·9	−0·4		2-3	3	+0·5
13 0 9 41·0	P	23 32 49·85	50·00	−0·15	−2 56 14·2	14·3	+0·1		3	2	+0·2
16 0 8 50·4	AP	23 43 48·84	48·89	−0·05	−1 45 13·5	12·7	−0·8		3	3	+0·4
17 0 8 32·9	AC	23 47 27·83	28·03	−0·20	−1 21 29·0	30·3	+1·3		...	3	0·0
20 0 7 39·8	C	23 58 24·16	24·24	−0·08	−0 10 23·1	22·7	−0·4		3	2,1	+1·1
23 0 6 45·0	C	0 9 18·92	19·13	−0·21	+1 0 38·2	38·1	+0·1		3-4	2	+0·9
24 0 6 26·6	P	0 12 57·04	57·24	−0·20	+1 24 15·1	15·2	−0·1		3	3	+0·1
Apr. 2 0 3 41·4	M	0 45 40·45	40·53	−0·08	+4 54 33·2	33·9	−0·7		3	1	+0·6
6 0 2 30·9	W	1 0 15·87	15·92	−0·05	+6 26 3·8	3·9	−0·1		3-4	2	+1·2
7 0 2 13·5	P	1 3 55·07	55·24	−0·17	+6 48 40·9	40·9	0·0		3-4	2	−0·3
10 0 1 23·6	AC	1 14 54·65	54·65	0·00	+7 55 50·8	49·3	+1·5		...	1	−0·4
11 0 1 7·4	C	1 18 34·93	34·96	−0·03	+8 17 56·1	56·6	−0·5		3	2	+0·2
16 23 59 36·4	P	1 40 43·03	43·20	−0·17	+10 27 32·3	32·2	+0·1		3	2	−0·1
17 23 59 22·6	M	1 44 25·68	25·76	−0·08	+10 48 33·0	33·6	−0·6		3-4	3	+0·5
19 23 58 55·9	C	1 51 51·98	52·03	−0·05	+11 30 3·2	3·6	−0·4		3	2	−0·1
21 23 58 30·7	M	1 59 19·92	19·96	−0·04	+12 10 47·0	48·0	−1·0		3	2	+0·4
22 23 58 18·8	P	2 3 4·49	4·58	−0·09	+12 30 52·0	52·3	−0·3		3	2	+0·6
24 23 57 56·5	AC	2 10 35·21	35·22	−0·01	+13 10 22·7	23·6	−0·9		...	1	−1·4
28 23 57 17·7	AC	2 25 42·54	42·48	+0·06	+14 26 47·3	48·7	−1·4		...	1	+0·7
May 8 23 56 18·9	W	3 4 9·17	9·21	−0·04	+17 20 36·4	36·9	−0·5		...	1	+1·4

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1891. d h m s		h m s	s	s	° ′ ″	″	″				″
May 10 23 56 14·0	C	3 11 57·33	57·43	−0·10	+17 52 4·3	4·5	−0·2		2–3	2	−0·1
13 23 56 10·8	M	3 23 43·87	43·97	−0·10	+18 37 2·0	0·2	+1·8		3	4	−0·6
14 23 56 10·9	AP	3 27 40·54	40·60	−0·06	+18 51 21·7	21·4	+0·3		2–3	3	+0·4
21 23 56 26·6	AP	3 55 32·16	32·22	−0·06	+20 22 37·7	38·2	−0·5		2–3	3,4	+0·4
22 23 56 30·9	M	3 59 33·05	33·17	−0·12	+20 34 18·1	18·9	−0·8		3	3	+0·4
27 23 57 0·6	AC	...	...	...	+21 27 21·5	21·2	+0·3		...	3	−0·5
28 23 57 7·9	M	4 23 49·41	49·51	−0·10	+21 36 52·0	51·9	+0·1		2–3	5	−0·2
31 23 57 32·6	W	4 36 4·05	44·14	−0·09	+22 3 8·1	9·1	−1·0		...	2	+0·1
June 7 23 58 44·6	M	5 4 52·00	52·14	−0·14	+22 50 58·5	57·6	+0·9		3	3	0·0
8 23 58 56·2	W	5 9 0·16	0·26	−0·10	+22 56 11·6	12·1	−0·5		...	3,1	+0·1
9 23 59 8·1	AC	5 13 8·62	8·62	0·00	+23 1 3·3	2·5	+0·8		...	5,4	+0·2
16 0 0 22·4	M	5 38 2·51	2·54	−0·03	+23 21 29·9	30·7	−0·8		3	*u* 3,4	+0·7
19 0 1 1·0	AP	5 50 30·85	30·87	−0·02	+23 26 10·2	11·3	−1·1		2–3	2,3	+0·7
23 0 1 52·3	P	6 7 8·55	8·82	−0·27	+23 26 37·8	38·7	−0·9		3–4	4	+0·1
29 0 3 7·6	M	6 32 3·39	3·42	−0·03	+23 14 59·0	58·8	+0·2		2–3	6	−0·1
July 2 0 3 43·0	C	6 44 28·58	28·53	+0·05	+23 3 38·0	38·0	0·0		2	3,2	+0·1
4 0 4 5·2	AC	6 52 43·99	44·03	−0·04	+22 54 3·5	2·8	+0·7		...	3	+0·2
6 0 4 26·3	P	7 0 58·24	58·31	−0·07	+22 42 51·3	52·0	−0·7		2–3	3,4	+0·4
7 0 4 36·2	W	7 5 4·76	4·93	−0·17	+22 36 39·7	41·0	−1·3		...	3,4	+0·9
8 0 4 46·0	M	7 9 11·11	11·16	−0·05	+22 30 5·6	6·5	−0·9		2	5	+0·3
11 0 5 12·4	AP	7 21 27·23	27·38	−0·15	+22 8 3·9	3·3	+0·6		3	4	+0·4
15 0 5 41·3	C	7 37 42·52	42·52	0·00	+21 33 21·3	20·4	+0·9		3	3	+0·3
16 0 5 47·3	AP	7 41 45·01	45·04	−0·03	+21 23 44·0	44·1	−0·1		3	3	+0·8
18 0 5 57·6	M	7 49 48·50	48·50	0·00	+21 3 26·1	26·4	−0·3		2–3	2	+0·7
20 0 6 5·8	M	7 57 49·80	49·77	+0·03	+20 41 40·9	43·3	−2·4		2–3	4,5	+0·6
30 0 6 12·3	W	8 37 21·96	22·04	−0·08	+18 32 55·7	56·1	−0·4		...	2,3	+0·5
31 0 6 9·8	AC	8 41 15·93	16·10	−0·17	+18 18 18·0	18·2	−0·2		...	2,3	+1·2
Aug. 7 0 5 35·6	P	9 8 17·56	17·72	−0·16	+16 27 43·6	43·4	+0·2		2–3	2	−0·2
11 0 5 3·0	W	9 23 31·11	31·15	−0·04	+15 18 34·5	35·2	−0·7		...	3	+0·6
12 0 4 53·3	C	9 28 17·93	18·04	−0·11	+15 0 40·7	40·8	−0·1	II.	1–2	1,2	+0·3
14 0 4 32·2	P	9 34 49·90	50·09	−0·19	+14 24 8·7	9·2	−0·5		3	4	+0·1
18 0 3 43·8	C	9 49 47·55	47·61	−0·06	+13 8 24·8	24·5	+0·3		3	2	−0·3
19 0 3 30·3	M	9 53 30·60	30·67	−0·07	+12 48 56·0	56·6	−0·6		2–3	4	+0·2
20 0 3 16·4	P	9 57 13·16	13·25	−0·09	+12 29 15·1	16·6	−1·5		3	3	−0·3
21 0 3 1·8	AC	10 1 55·17	55·35	−0·18	+12 9 24·3	24·7	−0·4		...	3	−1·1
27 0 1 26·6	C	10 22 58·96	59·01	−0·05	+10 6 20·7	20·4	+0·3		...	3,2	−0·5
31 0 0 15·5	M	10 37 33·89	34·02	−0·13	+ 8 40 57·9	58·4	−0·5		3	3	+0·4
Sept. 4 23 58 40·0	W	10 55 40·88	40·95	−0·07	+ 6 51 9·0	8·9	+0·1	I.	...	2	+0·7
13 23 55 34·5	P	11 28 3·92	4·05	−0·13	+ 3 26 53·2	53·3	−0·1		2–3	2	+0·3
14 23 55 13·4	W	11 31 39·25	39·32	−0·07	+ 3 3 47·9	48·9	−1·0		...	2	+0·5
18 23 53 48·2	AC	11 46 0·11	0·12	−0·01	+ 1 30 59·6	60·9	−1·3		...	1	+0·2
20 23 53 5·8	C	11 53 10·64	10·72	−0·08	+ 0 44 23·2	22·9	+0·3		2–3	2	+1·0
23 23 52 3·1	M	12 3 57·42	57·41	+0·01	− 0 25 45·6	44·8	−0·8		2–3	4	+0·7
29 23 50 2·4	M	12 25 35·65	35·70	−0·05	− 2 46 5·4	5·4	0·0		2–3	3	+0·3
Oct. 1 23 49 24·1	C	12 32 50·38	50·44	−0·06	− 3 32 43·2	43·2	0·0		3	2	+0·8

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1891. d h m s		h m s	s	s	° ′ ″	″	″				″
Nov. 5 23 43 43·5	C	14 45 8·35	8·38	−0·03	−15 58 31·2	30·0	−1·2		3–4	2	−0·1
16 23 45 2·6	C	15 29 49·78	49·83	−0·05	−18 59 2·8	2·9	+0·1	II.	3	2	+1·0
30 23 49 6·7	M	...	...	...	−21 48 39·0	39·7	+0·7		2–3	1	+0·4
Dec. 7 23 51 59·1	C	16 59 35·12	35·23	−0·11	−22 43 43·4	41·8	−1·6		3–4	2	+0·4
15 23 55 42·9	C	17 34 51·95	51·90	+0·05	−23 19 43·7	43·4	−0·3		3–4	2,1	−0·4
16 23 56 12·0	M	17 39 17·70	17·79	−0·09	−23 22 10·9	9·0	−1·9		3	3	+1·2
1892.											
Jan. 5 0 5 27·7	AC	19 3 29·51	29·61	−0·10	−22 39 8·5	8·5	0·0		3–4	2	+0·1
6 0 5 54·4	W	19 7 52·89	53·00	−0·11	−22 32 16·7	15·3	−1·4		3–4	1	+1·1
7 0 6 20·8	C	19 12 15·91	15·91	0·00	−22 24 56·2	55·5	−0·7		3–4	2	+0·8
13 0 8 46·6	M	19 38 21·56	21·78	−0·22	−21 31 49·3	48·9	−0·4		3	2,1	+0·1
21 0 11 25·6	M	20 12 33·37	33·49	−0·12	−19 57 57·3	57·9	+0·6		3	4	+1·3
25 0 12 27·6	C	20 29 21·77	21·87	−0·10	−19 1 55·3	54·5	−0·8		3	3	+0·8
Feb. 2 0 13 53·5	M	21 2 20·31	20·40	−0·09	−16 53 28·4	27·6	−0·8		3–4	2	+0·8
4 0 14 6·7	AC	21 10 26·63	26·70	−0·07	−16 18 17·0	15·6	−1·4		...	2	−0·1
5 0 14 11·9	W	21 14 28·44	28·60	−0·16	−16 0 15·8	14·2	−1·6		...	1	+1·8
9 0 14 25·0	C	21 30 27·76	27·90	−0·14	−14 45 29·9	28·7	−1·2		3	2	−0·1
10 0 14 26·3	AC	21 34 25·64	25·70	−0·06	−14 26 10·0	9·4	−0·6		...	3	+0·2
11 0 14 26·5	M	21 38 (22·38)	22·71	(−0·33)	−14 6 35·1	35·8	+0·7		3–4	1	+0·1
13 0 14 25·2	AP	21 46 14·22	14·39	−0·17	−13 26 50·0	47·5	−2·5		3–4	2,1	−0·3
15 0 14 20·9	C	21 54 3·08	3·07	+0·01	−12 46 6·7	6·6	−0·1		3	2	−0·4
17 0 14 13·6	M	22 1 48·87	48·85	+0·02	−12 4 36·4	36·2	−0·2		2–3	2	+0·5
19 0 14 3·5	AC	22 9 31·80	31·87	−0·07	−11 22 20·8	19·7	−1·1		3	3	−0·3
20 0 13 57·5	W	22 13 22·28	22·37	−0·09	−11 0 56·5	55·1	−1·4		...	2,1	+0·4
22 0 13 43·5	M	22 21 1·38	1·47	−0·09	−10 17 36·2	35·2	−1·0		3	2	+1·0
24 0 13 27·0	C	22 28 37·99	38·11	−0·12	−9 33 38·8	37·2	−1·6		3	3,2	+0·1
25 0 13 17·9	W	22 32 25·39	25·53	−0·14	−9 11 26·3	24·8	−1·5		3	3,2	+1·4
Mar. 2 0 12 11·5	M	22 54 58·17	58·41	−0·24	−6 55 31·3	31·2	−0·1		3	1	+0·1
3 0 11 58·7	AP	22 58 41·85	42·07	−0·22	−6 32 30·6	29·6	−1·0		3–4	2,1	−0·1
4 0 11 45·5	P	23 2 25·18	25·26	−0·08	−6 9 23·0	22·6	−0·4		3	2	−0·6
8 0 10 47·8	P	23 17 13·50	13·66	−0·16	−4 36 10·0	9·3	−0·7		3–4	1	0·0
9 0 10 32·4	C	23 20 54·65	54·76	−0·11	−4 12 42·9	41·5	−1·4		3–4	2	−0·1
17 0 8 18·3	P	23 50 12·58	12·72	−0·14	−1 3 40·8	40·5	−0 3		3–4	2	−0·2
23 0 6 30·1	C	0 12 3·49	3·47	+0·02	+1 18 23·6	24·9	−1·3		3	2	−0·3
Apr. 1 0 3 45·8	AP	0 44 47·68	47·83	−0·15	+4 49 0·6	1·0	−0·4		3–4	2	+0·3
2 0 3 27·9	P	0 48 26·28	26·43	−0·15	+5 12 3·0	3·8	−0·8		3–4	1	−0·5
5 0 2 35·0	W	0 59 22·93	23·00	−0·07	+6 20 35·6	36·9	−1·3		...	2	+0·1
7 0 2 0·6	C	1 6 41·49	41·58	−0·09	+7 5 46·6	46·2	+0·4		3	c 2	−0·5
8 0 1 43·6	AP	1 10 21·05	21·18	−0·13	+7 28 9·1	10·1	−1·0		3–4	c 2	−0·2
9 0 1 27·1	W	1 14 1·00	1·03	−0·03	+7 50 25·2	26·3	−1·1		3–4	2	+0·2
13 0 0 23·3	C	1 28 43·22	43·18	+0·04	+9 18 7·6	8·3	−0·7		...	2	0·0
14 0 0 7·8	W	1 32 24·31	24·51	−0·20	+9 39 40·7	41·6	−0·9		...	2	−0·1
19 23 58 45·0	AP	1 54 40·54	40·61	−0·07	+11 45 30·1	30·0	+0·1		3–4	3	+0·5
20 23 58 32·5	P	1 58 24·58	24·79	−0·21	+12 5 48·8	49·9	−1·1		3–4	3	+0·3
25 23 57 38·0	P	2 17 12·76	12·82	−0·06	+13 44 25·1	26·0	−0·9		3–4	3	+0·2

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension.		O—C.	Declination.		O—C.	Limbs.	Definition.	Remarks.	Day Corr.
		Observed.	Comp.		Observed.	Comp.					
1892. d h m s		h m s	s	s	° ′ ″	″	″				″
Apr. 26 23 57 28·6	AP	2 20 59·85	59·92	−0·07	+14 3 29·4	30·0	−0·6		3–4	3	+0·6
27 23 57 19·7	C	2 24 47·48	47·53	−0·05	+14 22 20·1	20·2	−0·1		3	2	+0·2
May 8 23 56 16·4	AP	3 7 6·16	6·20	−0·04	+17 32 42·7	41·7	+1·0		3	4	+0·2
11 23 56 10·6	P	3 18 50·03	50·20	−0·17	+18 18 42·6	43·1	−0·5		...	4	−0·5
12 23 56 10·0	W	3 22 45·97	46·02	−0·05	+18 33 27·2	27·0	+0·2		...	3	+0·7
13 23 56 9·9	C	3 26 42·39	42·42	−0·03	+18 47 51·8	52·4	−0·6		2–3	2	+0·1
15 23 56 11·5	AP	3 34 36·93	36·96	−0·03	+19 15 46·3	46·0	+0·3		3	5	0·0
16 23 56 12·9	C	3 38 35·08	35·10	−0·02	+19 29 12·5	13·7	−1·2		2–3	2	−0·3
18 23 56 17·7	W	3 46 33·04	33·09	−0·05	+19 55 8·7	9·7	−1·0		...	4	+0·3
24 23 56 45·6	C	4 10 40·37	40·38	−0·01	+21 4 43·9	43·4	+0·5		...	3	+1·0
26 23 56 59·0	AP	4 18 46·89	46·95	−0·06	+21 25 2·8	3·2	−0·4		3	5,4	−0·1
27 23 57 6·4	P	4 22 50·80	50·94	−0·14	+21 34 39·2	39·8	−0·6		2–3	1	+0·4
June 3 23 58 9·6	W	4 51 30·09	30·22	−0·13	+22 31 15·5	16·2	−0·7		...	2,1	−0·2
6 23 58 41·8	AP	5 3 52·06	52·19	−0·13	+22 49 39·6	39·7	−0·1		3	5	+0·1
8 23 59 4·8	W	5 12 8·22	8·21	+0·01	+22 59 54·4	55·5	−1·1		...	2,3	+0·8
12 23 59 52·9	W	5 28 42·75	42·94	−0·19	+23 15 34·3	35·7	−1·4		3	4	+0·5
16 0 0 30·9	W	5 41 10·56	10·71	−0·15	+23 23 2·1	3·4	−1·3		...	4	0·0
17 0 0 44·0	P	...	...	...	+23 24 43·0	43·3	−0·3		2–3	4	−0·2
July 1 0 3 40·7	C	6 43 29·24	29·29	−0·05	+23 4 42·9	42·7	+0·2		2	4,3	+0·1
7 0 4 43·5	AP	7 8 11·58	11·57	+0·01	+22 31 44·6	45·2	−0·6	I.	3	4	−0·2
8 0 4 52·7	P	7 12 17·19	17·34	−0·15	+22 24 52·6	53·1	−0·5		2–3	4,3	−0·1
11 0 5 17·7	C	7 24 32·09	32·10	−0·01	+22 1 58·5	58·3	+0·2	II.	2–3	4	+0·2
12 0 5 25·2	AP	7 28 36·10	36·14	−0·04	+21 53 35·2	34·6	+0·6		2–3	4	0·0
21 0 6 10·6	C	...	...	...	+20 21 31·9	32·8	−0·9		2–3	2	+0·4
Aug. 1 0 6 4·4	C	8 48 6·56	6·60	−0·04	+17 51 50·5	50·4	+0·1		3–4	3,2	+0·1
2 0 6 0·0	AP	8 51 58·75	58·89	−0·14	+17 36 22·8	23·4	−0·6		3–4	3	0·0
3 0 5 55·2	P	8 55 50·44	50·57	−0·13	+17 20 38·5	39·4	−0·9		3	2	+0·1
5 0 5 43·7	AP	9 3 32·03	32·09	−0·06	+16 48 20·4	21·3	−0·9		3	c 1	+0·4
11 0 4 54·6	P	9 26 22·17	22·31	−0·14	+15 5 6·9	7·1	−0·2		3	3	+0·4
12 0 4 44·6	C	9 30 8·66	8·69	−0·03	+14 47 2·8	2·5	+0·3		3–4	2,1	+0·4
13 0 4 33·8	AP	9 33 54·44	54·54	−0·10	+14 28 43·0	43·5	−0·5		3–4	1	−0·8
17 0 3 46·1	C	9 48 52·83	52·83	0·00	+13 13 10·8	11·3	−0·5		3	3,2	−0·1
20 0 3 5·1	C	10 0 1·37	1·44	−0·07	...	...	...		3	3	...
29 0 0 38·4	P	10 33 3·28	3·41	−0·13	+ 9 7 42·1	41·7	+0·4		3–4	t 1	+1·0
30 0 0 20·3	C	10 36 41·64	41·68	−0·04	+ 8 46 9·4	9·9	−0·5		2–3	2	−0·4
Sept. 6 23 57 43·9	C	11 5 37·26	37·33	−0·07	+ 5 49 23·4	23·1	+0·3		3–4	3,2	−0·3
18 23 53 31·9	P	11 48 43·18	43·28	−0·10	+ 1 13 23·7	22·7	+1·0		4–3	2	+0·3
19 23 53 10·7	P	11 52 18·50	18·76	−0·26	+ 0 50 1·8	1·9	−0·1		3	2	−0·5

Digitized by Google

Right Ascension and Declination of Mercury.

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1884. d h m s		h m s	s	s	° ′ ″	″	″				″
Feb. 12 22 28 24·7	R	...	...	...	−20 6 17·2	18·2	+1·0	C.	...	...	...
15 22 29 59·3	P	20 13 7·36	7·47	−0·11	−19 56 39·4	40·1	+0·7	C.	...	1	+0·2
19 22 34 6·9	R	20 33 1·82	1·87	−0·05	−19 26 19·5	20·1	+0·6	C.	...	2,1	−0·2
24 22 41 34·2	C	21 0 13·12	13·00	+0·12	−18 19 36·0	35·1	−0·9	C.	...	1	−1·1
25 22 43 17·6	M	21 5 53·41	53·08	+0·33	−18 2 20·8	21·1	+0·3	C.	...	...	...
27 22 46 54·9	R	...	...	...	−17 23 58·3	59·6	+1·3	C.	...	...	...
Mar. 3 22 56 54·0	P	...	...	...	−15 25 25·1	25·3	+0·2	C.	...	...	...
4 22 59 1·9	M	...	...	...	−14 57 50·2	50·0	−0·2	C.	...	...	...
9 23 10 17·3	P	22 24 12·71	12·71	0·00	−12 20 40·4	41·3	+0·9	C.	...	1	+0·4
12 23 17 30·5	C	22 43 16·77	16·73	+0·04	−10 31 12·1	11·5	−0·6	C.	...	1	+0·3
16 23 27 42·6	C	23 9 16·70	16·69	+0·01	− 7 47 49·7	49·3	−0·4	C.	...	1	+0·7
21 23 41 30·9	M	...	...	...	− 3 56 47·5	48·4	+0·9	C.	...	2	+0·9
Apr. 9 0 41 44·0	R	1 54 11·00	11·06	−0·06	...	...	...	C.	...	1	...
23 1 15 27·1	P	3 23 11·39	11·50	−0·11	+21 18 42·4	44·9	−2·5	C.	...	2	+1·0
June 12 22 41 31·4	C	3 52 51·86	51·98	−0·12	−16 41 38·9	39·7	−0·8	II. C.	...	F 1	+1·0
17 22 27 18·2	C	4 15 21·93	22·23	−0·30	+18 27 37·4	38·2	−0·8	II. C.	...	F 1	+0·6
24 22 42 4·8	P	4 57 46·83	46·78	+0·05	+21 10 54·9	55·5	−0·6	II. C.	3–4	*f* 3	+0·7
29 23 0 24·8	C	5 35 52·64	52·52	+0·12	+22 51 3·6	4·4	−0·8	II. C.	...	2	+0·5
July 3 23 19 12·1	C	6 10 29·25	29·36	−0·11	+23 42 50·2	50·4	−0·2	C.	...	*f* 2	+1·5
4 23 24 20·6	C	6 19 35·15	35·19	−0·04	+23 50 13·1	14·6	−1·5	C.	...	*f*,s 3,2	+0·8
28 1 10 55·1	P	9 37 8·02	8·04	−0·02	+15 45 56·0	56·3	−0·3	C.	...	2	+0·7
30 1 16 30·9	C	9 50 36·89	36·75	+0·14	+14 27 0·3	2·1	−1·8	C.	...	2	+0·2
31 1 19 3·9	M	9 57 6·88	6·98	−0·10	+13 46 52·5	52·6	−0·1	C.	...	*f* 3	+1·7
Aug. 1 1 21 27·1	P	10 3 27·98	28·09	−0·11	+13 6 20·4	21·5	−1·1	C.	...	3,2	−0·5
4 1 27 47·1	M	10 21 38·72	38·92	−0·20	+11 3 23·6	23·0	+0·6	C.	...	2	+1·0
5 1 29 37·2	C	10 27 25·59	25·68	−0·09	+10 22 9·0	9·0	0·0	C.	...	*f* 2,1	+1·1
8 1 34 19·1	M	10 43 57·97	57·91	+0·06	+ 8 18 35·8	35·8	0·0	C.	...	1	−0·2
12 1 38 47·3	P	11 4 13·10	13·09	+0·01	+ 5 36 19·3	19·6	−0·3	C.	...	1	−0·5
14 1 40 16·4	P	11 13 35·54	35·58	−0·04	+ 4 17 11·7	13·4	−1·7	C.	...	1,0	...
16 1 41 15·3	C	11 22 27·66	27·82	−0·16	+ 3 0 2·2	3·3	−1·1	C.	...	F 1	+1·6
28 1 35 4·4	C	12 3 34·44	34·34	+0·10	+ 3 33 15·6	16·0	−0·4	C.	...	1	+1·0
Sept. 28 22 53 14·8	P	11 27 27·93	28·06	−0·13	+ 3 41 2·4	4·4	−2·0	C.	...	*f* 2	+0·8
Oct. 1 22 46 40·5	C	...	...	...	+ 3 56 46·1	47·7	−1·6	C.	...	2	+0·4
2 22 45 34·4	P	11 35 32·48	32·41	+0·07	+ 3 51 58·7	60·0	−1·3	C.	...	1	+2·1
14 22 58 2·8	P	12 35 21·49	21·45	+0·04	− 1 40 48·0	48·2	+0·2	C.	...	2	+1·7
22 23 15 41·7	P	13 24 35·78	35·77	+0·01	− 7 19 18·2	18·2	0·0	C.	..	*f* 2	−0·1
Nov. 20 0 22 1·1	C	16 21 29·58	29·71	−0·13	−23 0 49·0	47·4	−1·6	C.	...	*f* 1	+0·9
21 0 24 38·2	P	16 28 3·70	3·66	+0·04	−23 20 48·5	49·0	+0·5	C.	...	1	+1·3

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1884. d h m s		h m s	s	s	° ′ ″	″	″				″
Dec. 2 0 54 15·1	C	17 41 7·50	7·62	−0·12	−25 37 50·8	50·2	−0·6	C.	...	s 1	+1·2
4 0 59 34·4	P	17 54 20·78	20·75	+0·03	−25 44 59·2	58·8	−0·4	C.	...	1	+1·7
5 1 2 10·6	C	18 0 53·97	54·15	−0·18	−25 46 23·4	22·2	−1·2	C.	...	1	+0·2
8 1 9 39·7	C	18 20 13·98	14·14	−0·16	−25 41 42·9	43·2	+0·3	C.	...	1	0·0
9 1 12 0·0	P	18 26 31·20	31·36	−0·16	−25 37 13·3	13·6	+0·3	C.	...	2,1	0·0
10 1 14 14·1	C	...	...	...	−25 31 16·5	16·5	0·0	C.	...	1	+1·1
13 1 20 5·9	M	18 50 24·72	24·62	+0·10	−25 4 54·7	54·1	−0·6	C.	...	1	+1·0
16 1 24 8·8	C	...	...	...	−24 26 45·1	44·7	−0·4	C.	...	...	...
18 1 25 22·8	C	19 15 25·22	25·24	−0·02	−23 55 50·2	49·0	−1·2	C.	...	1	−0·1
20 1 25 1·3	M	19 22 56·85	56·75	+0·10	−23 21 40·4	40·5	+0·1	C.	...	1	−1·3
22 1 22 38·2	C	...	...	...	−22 45 42·3	41·9	−0·4	C.	...	1	+0·1
23 1 20 32·3	M	19 30 16·75	16·83	−0·08	−22 27 33·2	32·6	−0·6	C.	...	2	+0·9
24 1 17 45·5	C	19 31 26·07	26·08	−0·01	−22 9 34·8	34·7	−0·1	C.	...	2	+0·5
1885.					′						
Jan. 15 22 38 6·1	C	18 22 1·22	0·99	+0·23	−20 36 48·2	47·8	−0·4	C.	...	2,1	+0·1
16 22 35 17·4	M	18 23 8·61	8·40	+0·21	−20 45 17·6	15·9	−1·7	II. C.	...	3	+1·3
20 22 28 32·4	P	18 32 8·76	8·72	+0·04	−21 18 54·4	55·4	+1·0	C.	...	2,1	−0·3
25 22 27 34·9	P	18 50 53·84	53·86	−0·02	−21 51 26·9	28·3	+1·4	II. N.	...	3	+0·6
28 22 29 42·4	C	19 4 51·38	51·36	+0·02	−22 1 40·9	41·3	+0·4	II. N.	...	2	+0·4
Dec. 1 1 21 15·9	M	18 3 18·57	18·56	+0·01	−25 39 20·8	20·4	−0·4	C.	...	4	−0·4
4 1 20 51·0	P	18 14 43·25	43·25	0·00	−25 16 41·3	41·1	−0·2	I. N.	...	5,4	+0·9
7 1 16 11·5	M	18 21 52·67	52·66	+0·01	−24 42 48·1	49·6	+1·5	C.	...	1	−1·4
8 1 13 25·6	P	18 23 2·91	2·78	+0·13	−24 29 21·4	20·0	−1·4	I. S.	...	2,3	+0·7
12 0 54 50·9	C	18 20 11·38	11·54	−0·16	−23 26 10·6	12·6	+2·0	C. S.	...	3,4	+0·4
27 22 45 46·8	M	17 13 50·92	50·77	+0·15	−19 57 37·8	37·2	−0·6	II. S.	...	4,2	0·0
29 22 37 43·6	C	17 13 39·52	39·40	+0·12	−20 5 46·6	46·2	−0·4	II. S.	...	3,4	+0·8
1886.											
Jan. 3 22 27 15·8	C	17 22 52·79	52·74	+0·05	−20 51 3·2	0·6	−2·6	II. S.	3–4	d 4	+1·9
5 22 26 0·4	P	17 29 30·33	30·30	+0·03	−21 13 57·1	55·0	−2·1	II. S.	...	4,3	+2·1
6 22 25 51·2	M	17 33 17·61	17·62	−0·01	−21 25 36·6	34·6	−2·0	II. S.	...	f 4,2	+0·2
11 22 28 43·3	P	17 55 53·05	52·94	+0·11	−22 20 1·5	0·2	−1·3	II. S.	...	4	+1·9
12 22 29 52·6	M	18 0 59·01	58·61	+0·40	−22 29 20·5	18·7	−1·8	II. S.	3–4	p 1	+0·4
14 22 32 36·8	P	18 11 36·77	36·53	+0·24	−22 45 39·9	38·8	−1·1	II. S.	3–4	p 2	+2·1
18 22 39 31·4	P	18 34 18·79	18·59	+0·20	−23 7 28·3	26·8	−1·5	II. S.	...	2	+1·6
22 22 47 52·1	M	18 58 27·02	26·72	+0·30	−23 12 17·9	17·8	−0·1	II. C.	...	2	+1·0
29 23 4 44·5	C	19 42 58·15	58·21	−0·06	−22 34 10·2	9·8	−0·4	II. C.	...	2,1	+0·6
Feb. 3 23 17 57·1	C	20 15 55·71	55·73	−0·02	−21 27 36·2	35·4	−0·8	II. C.	3–4	2	−0·2
5 23 23 25·2	M	20 29 17·80	17·70	+0·10	−20 51 22·9	22·6	−0·3	II. C.	3–4	2	+0·6
7 23 28 58·1	C	20 42 44·72	44·64	+0·08	−20 9 35·6	35·0	−0·6	II. C.	...	3,2	+0·7
10 23 37 25·5	C	21 3 3·12	3·01	+0·11	−18 56 18·8	19·0	+0·2	II. C.	3–4	d 3	+0·7
Mar. 1 0 30 40·9	C	23 7 25·22	25·32	−0·10	− 7 10 60·0	58·3	−1·7	C.	...	3	+0·4
2 0 33 42·5	F	23 14 23·90	23·98	−0·08	− 6 19 33·0	31·4	−1·6	C.	...	1,0	...
3 0 36 43·3	P	23 21 21·79	21·91	−0·12	− 5 27 7·5	6·3	−1·2	C.	3–4	p 2	+0·6
4 0 39 43·2	M	23 28 18·69	18·70	−0·01	− 4 33 48·9	49·1	+0·2	C.	...	1	−0·4
5 0 42 41·4	M	23 35 13·90	13·81	+0·09	− 3 39 48·6	47·1	−1·5	C.	...	5,3	−1·3
10 0 56 40·1	F	0 8 57·70	57·76	−0·06	+ 0 55 55·7	57·1	−1·4	C.	3–4	u 7	+0·4

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1886. d h m s		h m s	s	s	° ′ ″	″	″				″
Mar. 11 0 59 10·6	C	0 15 25·11	25·28	−0·17	+ 1 50 46·6	48·2	−1·6	C.	...	4	−0·1
16 1 9 3·4	P	0 45 2·34	2·53	−0·19	+ 6 9 40·1	40·6	−0·5	I. S.	3	5	+0·8
17 1 10 19·1	C	0 50 14·81	14·94	−0·13	+ 6 56 25·0	25·9	−0·9	C.	3	*f* 4	+0·1
18 1 11 16·9	F	0 55 9·28	9·29	−0·01	+ 7 40 51·5	52·5	−1·0	C.	...	6	+0·1
22 1 11 38·8	C	1 11 17·44	17·70	−0·26	+10 10 51·8	51·8	0·0	C.	4–3	3	−0·4
23 1 10 46·5	P	1 14 21·54	21·47	+0·07	+10 40 20·6	23·5	−2·9	I. S.	...	5	+1·1
24 1 9 28·6	F	1 16 60·01	59·99	+0·02	+11 6 22·4	23·5	−1·1	C.	3–4	5	+0·7
25 1 7 45·1	M	1 19 12·77	12·65	+0·12	+11 28 45·9	43·9	+2·0	C.	3–4	7,6	−0·7
26 1 5 35·2	C	1 20 59·12	59·01	+0·11	+11 47 17·0	17·5	−0·5	I. S.	3–4	5	0·0
Apr. 20 22 50 32·1	C	0 48 4·17	4·07	+0·10	+ 4 13 4·6	5·7	−1·1	II. C.	...	s,p 5	+0·6
21 22 46 41·9	F	0 48 9·93	9·94	−0·01	+ 3 58 18·4	18·5	−0·1	C.	...	*f*,p 4	+0·7
23 22 39 53·7	M	0 49 13·66	13·53	+0·13	+ 3 36 34·9	31·6	+3·3	II. N.	3–2	*f* 5,4	+0·3
25 22 34 11·7	F	0 51 23·84	23·81	+0·03	+ 3 25 5·5	5·9	−0·4	II. N.	1–2	2	+0·2
26 22 31 44·5	C	0 52 52·84	52·79	+0·05	+ 3 23 11·5	10·9	+0·6	II. N.	2	5	+0·1
29 22 25 51·9	M	0 58 48·93	48·54	+0·39	+ 3 31 57·1	54·6	+2·5	II. N.	3–4	*f* 5,4	+0·2
May 11 22 20 34·2	F	1 40 48·92	48·96	−0·04	+ 7 5 55·6	56·4	−0·8	II. N.	...	u 3	+0·4
12 22 21 14·5	P	1 45 25·97	26·03	−0·06	+ 7 33 58·5	58·4	+0·1	II. N.	1	5,4	+0·6
13 22 22 4·6	C	1 50 12·69	12·57	+0·12	+ 8 3 14·0	13·9	+0·1	II. C.	3–4	4	+0·1
14 22 23 4·1	M	...	...	...	+ 8 33 40·6	38·7	+1·9	N.	2–3	1	−0·8
16 22 25 30·4	C	2 5 28·75	28·74	+0·01	+ 9 37 40·8	40·2	+0·6	II. N.	3	2	+0·3
17 22 26 58·2	M	2 10 53·34	53·13	+0·21	+10 11 9·7	8·4	+1·3	II. N.	3	3,2	+1·0
21 22 34 26·0	M	2 34 8·60	8·67	−0·07	+12 33 1·8	2·0	−0·2	II. N.	2	2,1	+0·2
24 22 41 50·0	M	2 53 23·49	23·43	+0·06	+14 25 35·8	36·0	−0·2	II. N.	3	2,1	+0·8
28 22 54 17·6	M	3 21 39·36	39·33	+0·03	+16 58 52·6	53·5	−0·9	II. N.	2	3	−0·1
June 2 23 14 19·0	F	4 1 26·83	26·70	+0·13	+20 3 47·6	48·2	−0·6	C.	...	4,2	+0·1
7 23 39 2·3	M	4 45 57·00	56·92	+0·08	+22 40 44·4	45·0	−0·6	C.	3–4	3,2	+0·2
8 23 44 25·5	C	4 55 17·63	18·03	−0·40	+23 6 32·8	34·1	−1·3	II. C.	3–4	*f*,*d* 3,4	+0·1
16 0 23 45·9	M	6 2 20·38	20·29	+0·09	...	...	...	C.	3	2	...
17 0 29 17·7	F	6 11 49·65	49·72	−0·07	+25 0 2·3	2·9	−0·6	C.	...	6	+0·9
18 0 34 44·0	M	6 21 13·42	13·42	0·00	+25 1 37·9	40·1	−2·2	C.	2	3	+0·4
19 0 40 2·9	C	6 30 29·76	30·22	−0·46	+25 0 33·4	33·5	−0·1	C.	...	1,2	+0·6
22 0 55 10·0	M	6 57 28·95	29·00	−0·05	+24 41 44·7	45·8	−1·1	C.	3	2	+0·1
26 1 12 53·3	M	7 31 1·36	1·40	−0·04	+23 45 4·1	3·5	+0·6	C.	3	3,5	+0·4
July 5 1 41 14·5	M	8 34 56·31	56·24	+0·07	+20 5 41·9	42·0	−0·1	C.	3–4	6	+0·3
6 1 43 23·6	C	8 41 2·33	2·42	−0·09	+19 36 18·1	18·3	−0·2	I. C.	...	4	+0·5
7 1 45 21·3	F	8 46 56·85	56·81	+0·04	+19 6 17·0	17·9	−0·9	I. N.	...	5,4	0·0
8 1 47 7·1	C	8 52 39·39	39·45	−0·06	+18 35 45·6	46·7	−1·1	I. C.	...	2	+0·7
9 1 48 41·2	M	8 58 10·39	10·37	+0·02	+18 4 50·4	50·3	+0·1	I. N.	3	7,8	+0·2
10 1 50 3·5	P	9 3 29·46	29·60	−0·14	+17 33 31·9	34·3	−2·4	I. N.	...	4	+1·3
12 1 52 13·2	C	9 13 32·71	32·97	−0·26	+16 30 26·3	25·3	+1·0	I. C.	3	3	+0·8
13 1 53 0·9	M	9 18 17·05	17·01	+0·04	+15 58 43·8	43·0	+0·8	C.	4–3	5,6	+0·4
14 1 53 36·4	M	9 22 49·23	49·23	0·00	+15 27 1·2	2·5	−1·3	C.	3–4	*f* 4,3	+0·5
17 1 54 11·2	F	9 35 13·78	13·76	+0·02	+13 53 5·4	5·8	−0·4	I. N.	...	5	+0·1
21 1 52 2·6	M	9 48 51·06	51·05	+0·01	+11 53 46·8	45·6	+1·2	I. N.	3–2	3	−0·1
22 1 50 57·3	C	9 51 42·09	42·25	−0·16	+11 25 35·9	37·7	−1·8	I. N.	...	*f* 4	+0·7
24 1 48 5·2	M	9 56 42·63	42·49	+0·14	+10 32 8·4	7·8	+0·6	C.	3–4	4,5	0·0

Digitized by Google

Cape Mean Time.	Obs	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1886. d h m s		h m s	s	s	° ′ ″	″	″				″
July 26 1 44 13·5	P	10 0 43·41	43·59	−0·18	+ 9 43 5·6	5·0	+0·6	I. N.	4–3	4	+0·3
28 1 39 19·5	C	10 3 41·71	41·80	−0·09	+ 8 59 27·8	27·7	+0·1	I. N.	...	5	+0·8
Aug. 2 1 22 4·4	C	10 6 6·59	6·63	−0·04	+ 7 41 9·7	8·9	+0·8	I. N.	...	3	−0·3
Sept. 3 22 51 40·6	M	9 45 24·40	24·31	+0·09	+13 57 51·5	52·2	−0·7	II. S.	3	3,2	−0·4
7 22 58 18·0	P	10 7 49·03	49·24	−0·21	+12 46 36·9	38·3	−1·4	II. S.	...	4	+0·7
9 23 3 8·6	M	10 20 33·61	33·67	−0·06	+11 52 24·1	24·6	−0·5	II. S.	3–4	6,5	−0·2
17 23 26 21·2	C	11 15 22·35	22·34	+0·01	+ 6 47 12·7	12·1	+0·6	II. C.	3–4	2	+0·7
19 23 32 12·1	P	11 29 7·40	7·38	+0·02	+ 5 17 17·5	17·6	−0·1	II. S.	3–4	*p* 3	+0·7
20 23 35 3·8	M	11 35 56·09	56·04	+0·05	+ 4 31 18·6	19·1	−0·5	II. S.	3–4	*p* 5	+0·4
21 23 37 52·1	C	11 42 41·34	41·68	−0·34	+ 3 44 49·8	51·2	−1·4	II. S.	3–4	2,1	+1·8
Oct. 6 0 11 40·7	C	13 11 47·25	47·46	−0·21	− 7 3 43·7	43·0	−0·7	C.	...	2	0·0
7 0 13 46·2	M	13 17 49·61	49·83	−0·22	− 7 47 27·5	28·1	+0·6	C.	3–4	1	+0·8
11 0 21 52·6	M	13 41 43·57	43·50	+0·07	−10 36 42·6	42·3	−0·3	C.	3–4	2,1	+2·4
19 0 37 18·0	M	14 28 43·98	44·14	−0·16	−15 42 49·7	49·0	−0·7	C.	3–4	4	0·0
22 0 42 57·8	C	14 46 14·30	14·10	+0·20	−17 24 47·6	46·9	−0·7	I. N.	...	4,3	+0·7
23 0 44 50·3	M	14 52 3·72	3·52	+0·20	−17 57 3·1	2·7	−0·4	C.	3–4	3,2	+0·1
30 0 57 45·3	C	15 32 36·74	36·65	+0·09	−21 16 21·1	21·7	+0·6	I. N.	3–4	2	+0·9
Nov. 1 1 1 18·2	C	15 44 3·25	3·38	−0·13	−22 3 59·8	60·1	+0·3	I. N.	3–4	3,2	+0·8
3 1 4 43·9	C	15 55 22·63	22·57	+0·06	−22 47 5·7	5·2	−0·5	I. N.	3–4	4,3	+1·2
6 1 9 30·0	M	16 11 59·23	59·15	+0·08	−23 42 36·0	36·4	+0·4	C.	3–4	4,3	−0·1
8 1 12 18·6	M	16 22 41·40	41·38	+0·02	−24 13 10·6	9·0	−1·6	C.	...	3	+1·4
9 1 13 33·8	C	16 27 53·33	53·34	−0·01	−24 26 22·4	22·5	+0·1	I. N.	...	4	+0·6
12 1 16 30·0	M	16 42 39·70	39·50	+0·20	−24 57 23·8	23·7	−0·1	I. N.	3	4,3	−0·3
13 1 17 7·3	C	16 47 13·63	13·61	+0·02	−25 4 42·7	43·2	+0·5	I. N.	...	4	−0·6
16 1 17 31·4	M	16 59 27·44	27·38	+0·06	−25 17 3·9	1·1	−2·8	I. N.	...	3	+0·3
22 1 7 56·9	F	17 13 30·82	30·91	−0·09	−24 53 17·5	17·2	−0·3	C.	...	3,2	+1·7
Dec. 12 22 39 17·6	M	16 7 14·74	14·65	+0·09	−18 1 55·2	53·7	−1·5	II. S.	3–4	3,1	−0·9
14 22 32 52·8	M	16 8 41·94	41·76	+0·18	−18 9 39·7	38·3	−1·4	II. S.	3–4	*f* 4,1	+0·7
15 22 30 32·3	C	16 10 17·65	17·49	+0·16	−18 17 36·5	36·3	−0·2	II. C.	3–4	F,D2,1	+0·8
16 22 28 42·4	M	16 12 24·04	23·98	+0·06	−18 27 48·5	48·2	−0·3	II. S.	3–4	2,1	+0·8
17 22 27 20·4	F	...	...	...	−18 39 52·6	53·0	+0·4	C.	...	...	...
20 22 25 34·1	M	16 25 1·38	1·19	+0·19	−19 24 9·7	9·2	−0·5	II. S.	3–4	2	0·0
22 22 25 56·8	F	16 33 17·26	17·29	−0·03	−19 57 35·5	35·8	+0·3	II. S.	...	1	+0·7
23 22 26 30·9	C	16 37 48·07	47·92	+0·15	−20 14 49·1	48·4	−0·7	II. S.	...	4,3	+0·2
28 22 32 12·1	P	17 3 12·97	13·07	−0·10	−21 39 2·7	3·3	+0·6	II. S.	4–3	*p* 4	+0·3
1887.											
Jan. 5 22 47 48·1	M	17 50 23·96	23·61	+0·35	−23 21 46·8	45·6	−1·2	II. S.	3–4	6,5	+0·8
6 22 50 7·1	C	17 56 39·90	39·81	+0·09	−23 30 22·3	21·9	−0·4	II. C.	3–4	3	−0·7
7 22 52 30·3	P	18 3 0·02	59·83	+0·19	−23 37 53·2	52·3	−0·9	II. S.	3–4	2,1	+0·1
10 22 59 59·7	C	18 22 20·33	20·20	+0·13	−23 53 31·2	30·8	−0·4	II. N.	3–4	2,1	+0·4
11 23 2 35·3	F	18 28 52·96	53·02	−0·06	−23 56 19·6	20·2	+0·6	II. C.	3	3,2	+2·0
13 23 7 55·2	M	18 42 6·84	6·55	+0·29	−23 58 15·0	13·2	−1·8	II. S.	3–4	3,2	−0·2
14 23 10 38·2	C	18 48 46·88	46·89	−0·01	−23 57 14·6	14·6	0·0	II. N.	3	2	−0·3
18 23 21 51·9	C	19 15 48·55	48·49	+0·06	−23 40 4·2	4·2	0·0	II. N.	3–4	2,1	−0·4
20 23 27 38·8	C	19 29 29·60	29·52	+0·08	−23 23 17·8	17·1	−0·7	II. N.	...	1	+1·1

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1887. d h m s		h m s	s	s	° ′ ″	″	″				″
Jan. 26 23 45 28·7	P	20 11 1·77	1·68	+0·09	−21 58 47·3	46·3	−1·0	C.	4–3	*f* 1	−0·8
30 23 57 38·3	F	20 38 59·58	59·55	+0·03	−20 33 5·8	5·9	+0·1	C.	...	*f* 3	−0·2
Feb. 1 0 0 42·0	C	...	...	...	−20 7 56·9	56·3	−0·6	C.	...	*f* 3	+0·8
10 0 28 21·6	F	21 49 13·41	13·33	+0·08	−15 13 49·6	49·2	−0·4	C.	...	*f* 2	−0·6
17 0 49 16·3	F	22 37 47·44	47·48	−0·04	−10 5 22·5	21·1	−1·4	I. S.	4–3	2,0	...
19 0 54 53·1	C	22 51 18·28	18·42	−0·14	− 8 26 53·7	51·7	−2·0	I. S.	3–4	3,2	+0·3
21 1 0 11·1	C	23 4 30·28	30·46	−0·18	− 6 45 22·5	20·3	−2·2	I. S.	3–4	1,0	...
24 1 7 15·2	M	23 23 25·21	25·08	+0·13	− 4 10 30·3	27·2	−3·1	C.	3–4	*d* 5,4	+0·9
26 1 11 6·5	F	23 35 10·24	10·23	+0·01	− 2 28 10·4	10·6	+0·2	I. N.	3–4	*u* 4,1	−0·6
28 1 14 2·2	M	23 45 59·45	59·13	+0·32	− 0 49 21·3	20·6	−0·7	I. S.	3–4	*d* 4,3	+0·5
Mar. 3 1 16 7·4	F	23 59 54·69	54·68	+0·01	+ 1 26 43·3	43·9	−0·6	I. S.	3	3,1	+0·5
7 1 13 22·4	P	0 12 55·49	55·39	+0·10	+ 3 51 15·3	19·3	−4·0	I. S.	3–4	3,2	+0·7
8 1 11 31·4	M	...	...	...	+ 4 18 45·7	48·5	−2·8	C.	4–3	...	...
9 1 9 11·2	C	0 16 36·62	36·51	+0·11	+ 4 42 16·8	17·6	−0·8	I. C.	3–4	*f* 3	+0·2
Apr. 4 22 42 59·2	M	23 36 27·56	27·50	+0·06	− 2 40 20·7	21·7	+1·0	II. N.	3	4	+0·5
8 22 32 1·3	P	23 41 14·04	13·81	+0·23	− 3 7 11·2	11·7	+0·5	II. N.	2–3	3,2	+0·4
11 22 26 36·5	P	23 47 38·00	37·95	+0·05	− 3 1 50·3	50·0	−0·3	II. N.	2–3	3	+0·6
13 22 24 9·1	C	23 53 3·31	3·12	+0·19	− 2 47 5·3	7·0	+1·7	II. N.	2	3	+0·4
19 22 21 19·0	C	0 13 52·06	51·79	+0·27	− 1 15 52·9	53·8	+0·9	II. N.	...	3	+0·4
21 22 21 39·3	C	0 22 5·53	5·14	+0·39	− 0 31 37·5	37·8	+0·3	II. N.	2	4,3	+1·0
22 22 22 1·8	M	0 26 24·70	24·51	+0·19	− 0 7 10·2	10·8	+0·6	II. N.	3	1	+0·9
24 22 23 11·2	M	0 35 27·31	27·25	+0·06	+ 0 46 4·6	4·6	0·0	II. N.	3	4	+0·6
27 22 25 52·3	F	0 49 58·54	58·49	+0·05	+ 2 16 2·6	2·7	−0·1	II. N.	1–2	4,3	+1·1
28 22 27 0·6	M	0 55 3·64	3·64	0·00	+ 2 48 30·7	31·3	−0·6	II. N.	3–2	4	+0·6
29 22 28 16·3	C	1 0 16·06	16·05	+0·01	+ 3 22 11·4	9·7	+1·7	II. N.	3	4,1	+0·9
May 2 22 32 47·0	M	1 16 37·18	37·10	+0·08	+ 5 9 34·5	35·1	−0·6	II. N.	2–3	4	+0·3
4 22 36 24·3	F	1 28 8·21	8·28	−0·07	...	...	...	II.	2	1	...
8 22 45 13·6	M	1 52 45·16	44·96	+0·20	+ 9 9 9·8	11·2	−1·4	II. N.	2–3	5,4	+0·7
9 22 47 46·5	C	...	...	...	+ 9 51 39·2	40·9	−1·7	N.	3	3	−0·3
10 22 50 28·4	M	2 5 53·92	53·83	+0·09	+10 34 42·7	43·9	−1·2	II. N.	2–3	6	+0·8
11 22 53 19·1	C	2 12 41·63	41·79	−0·16	+11 18 16·2	15·3	+0·9	II. N.	3	5	+0·2
12 22 56 19·6	M	2 19 39·23	39·08	+0·15	+12 2 10·3	10·8	−0·5	II. N.	3	5	+0·7
15 23 6 18·7	F	2 41 29·58	29·63	−0·05	+14 15 16·4	18·0	−1·6	II. N.	3	c 5,4	+0·1
19 23 22 1·2	C	3 13 0·89	0·84	+0·05	+17 11 19·6	20·1	−0·5	II. N.	2	*f*,c 4,3	+0·8
20 23 26 22·8	M	3 21 19·79	19·66	+0·13	+17 54 4·8	4·4	+0·4	II. N.	3	F 3	+1·0
31 0 17 17·6	M	4 51 48·52	48·66	−0·14	+23 40 23·4	24·7	−1·3	I. S.	...	*f* 6,4	+1·2
June 3 0 33 30·6	C	5 19 53·85	54·03	−0·18	+24 39 32·1	33·4	−1·3	I. S.	2–3	6	−0·4
4 0 38 48·0	P	5 29 8·65	8·75	−0·10	+24 53 41·6	42·9	−1·3	I. S.	3	4	+0·7
6 0 49 4·4	M	...	...	...	+25 13 45·6	44·4	+1·2	S.	...	5	+0·2
7 0 54 0·8	C	5 56 13·63	13·90	−0·27	+25 19 42·8	41·6	+1·2	C.	3–4	D 5,4	+0·3
8 0 58 49·0	M	6 4 59·12	59·16	−0·04	+25 23 3·8	2·8	+1·0	C.	3–4	p 5,4	+0·1
9 1 3 26·9	C	6 13 34·36	34·69	−0·33	+25 23 52·9	53·0	−0·1	C.	3–4	4	−0·1
13 1 20 11·0	C	6 46 7·50	7·70	−0·20	+25 4 18·2	18·3	−0·1	I. C.	2–3	4,5	+0·1
14 1 23 52·8	M	6 53 46·40	46·39	+0·01	+24 54 15·6	16·4	−0·8	I. S.	2	5	+0·1
16 1 30 38·4	F	7 8 26·23	26·22	+0·01	+24 28 54·8	55·3	−0·5	I. S.	...	4,5	−0·2
17 1 33 41·9	C	7 15 26·78	26·97	−0·19	+24 13 50·6	50·7	−0·1	I. N.	2–3	5	0·0

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1887. d h m s		h m s	s	s	° ′ ″	″	″				″
June 18 1 36 32·6	M	7 22 14·56	14·75	−0·19	+23 57 18·6	20·1	−1·5	C. S.	3–4	4,5	+1·0
20 1 41 34·9	C	7 35 10·74	10·90	−0·16	+23 20 28·7	28·9	−0·2	I. N.	2–3	2,3	+0·6
27 1 52 10·8	F	8 13 24·29	24·33	−0·04	+20 43 4·4	4·9	−0·5	I. N.	...	c 3	+0·7
29 1 53 8·3	M	8 22 15·05	14·97	+0·08	+19 53 30·6	30·6	0·0	I. N.	2–3	6,7	0·0
30 1 53 15·2	C	8 26 18·53	18·74	−0·21	+19 28 28·2	28·5	−0·3	I. N.	...	6,5	0·0
July 4 1 51 15·3	P	8 40 4·54	4·74	−0·20	+17 49 1·2	2·9	−1·7	I. N.	...	5,4	+1·4
5 1 50 6·9	M	8 42 52·52	52·56	−0·04	+17 24 52·8	52·2	+0·6	I. N.	2	6	+0·7
Aug. 14 22 48 53·8	C	8 22 48·44	48·51	−0·07	+18 3 28·7	28·8	−0·1	II. S.	2–3	6	0·0
19 22 52 20·9	F	8 45 58·89	58·91	−0·02	+17 58 46·7	48·2	−1·5	II. S.	3	3,1	−0·1
21 22 56 24·6	M	8 57 56·32	56·17	+0·15	+17 38 6·9	6·7	+0·2	II. S.	...	F 4,3	+0·6
22 22 58 53·6	C	9 4 22·33	22·25	+0·08	+17 23 24·4	25·2	−0·8	II. S.	3–4	5	+0·4
28 23 17 57·9	F	9 47 9·06	9·15	−0·09	+14 56 20·4	20·7	−0·3	C.	...	c 1	+1·2
Sept. 1 23 32 13·5	C	10 17 13·19	13·40	−0·21	+12 31 3·4	3·1	+0·3	C.	3–4	3,2	+0·3
4 23 42 37·3	M	10 39 28·39	28·39	0·00	+10 25 11·9	13·9	−2·0	C.	3	d 4	+0·2
5 23 45 57·2	F	10 46 45·40	45·48	−0·08	+ 9 41 3·2	2·4	+0·8	C.	...	5	−0·3
14 0 9 35·2	F	11 41 59·69	59·74	−0·05	+ 3 27 30·7	30·5	+0·2	C.	...	3	0·0
17 0 17 4·6	F	12 1 19·99	19·94	+0·05	+ 1 5 1·6	1·9	−0·3	C.	...	3,2	0·0
20 0 23 55·2	C	12 20 1·31	1·44	−0·13	− 1 15 46·2	47·5	+1·3	C.	3	4,3	−0·4
21 0 26 4·5	M	12 26 7·57	7·64	−0·07	− 2 2 9·1	8·7	−0·4	C.	2–3	5	+0·6
22 0 28 10·3	F	12 32 10·21	10·35	−0·14	− 2 48 8·6	8·2	−0·4	C.	...	3,1	+1·0
23 0 30 12·9	M	12 38 9·70	9·78	−0·08	− 3 33 44·8	44·2	−0·6	C.	3	5	+1·0
24 0 32 12·4	C	12 44 6·17	6·11	+0·06	− 4 18 54·1	54·6	+0·5	C.	3–4	2	−0·5
27 0 37 54·0	F	13 1 38·29	38·39	−0·10	− 6 31 34·7	35·2	+0·5	C.	3–4	4,3	+0·1
28 0 39 42·9	M	13 7 24·10	24·12	−0·02	− 7 14 47·3	46·8	−0·5	C.	3	4	+0·7
Oct. 1 0 44 56·7	M	13 24 28·36	28·36	0·00	− 9 20 55·0	55·2	+0·2	C.	3	2	+0·6
3 0 48 16·2	M	13 35 41·54	41·58	−0·04	−10 41 56·6	55·8	−0·8	C.	3	4	+0·4
5 0 51 28·9	M	13 46 47·87	48·00	−0·13	−12 0 16·7	16·3	−0·4	C.	3	2	+0·8
6 0 53 3·1	C	13 52 18·85	18·83	+0·02	−12 38 22·8	23·3	+0·5	C.	3–4	2,1	+0·2
10 0 59 3·7	C	14 14 6·67	6·64	+0·03	−15 3 17·7	18·3	+0·6	I. N.	3–4	4,3	+0·3
12 1 1 54·4	C	14 24 50·95	50·80	+0·15	−16 10 53·0	53·5	+0·5	I. N.	3	4	−0·1
13 1 3 17·0	M	14 30 10·33	10·16	+0·17	−16 43 22·6	22·6	0·0	I. N.	2–3	5	+0·5
20 1 11 44·3	C	15 6 14·89	14·87	+0·02	−20 3 26·6	26·9	+0·3	I. N.	3–4	5,4	−0·3
21 1 12 42·7	M	15 11 9·98	9·75	+0·23	−20 27 42·8	41·3	−1·5	I. N.	...	F,c 4	+1·5
25 1 15 36·4	M	15 29 50·35	50·24	+0·11	−21 51 55·9	58·1	+2·2	I. N.	2	4	+0·7
26 1 16 0·6	C	15 34 11·19	11·14	+0·05	−22 9 34·1	34·9	+0·8	I. N.	3	4,2	0·0
28 1 16 18·1	C	15 42 21·85	21·88	−0·03	−22 40 11·8	11·3	−0·5	I. N.	2–3	4,2	+0·2
29 1 16 8·3	M	15 46 8·62	8·83	−0·21	−22 53 2·4	0·9	−1·5	C.	3–4	p 5	−0·2
Nov. 1 1 14 5·1	C	15 55 54·76	54·81	−0·05	−23 20 27·2	26·7	−0·5	I. N.	3–4	4,3	−0·1
3 1 11 2·5	C	16 0 44·75	44·85	−0·10	−23 28 19·7	19·6	−0·1	I. N.	3	5,4	−0·5
4 1 8 53·9	M	16 2 32·35	32·26	+0·09	−23 28 43·4	43·1	−0·3	I. N.	2–3	6,4	+0·9
5 1 6 16·4	C	16 3 50·91	50·94	−0·03	−23 26 30·6	31·0	+0·4	I. N.	3	4,3	−0·1
7 0 59 24·6	C	16 4 51·08	50·98	+0·10	−23 13 34·4	35·3	+0·9	I. N.	3	4	−0·2
23 22 53 36·7	M	15 5 44·04	43·99	+0·05	−15 9 34·0	30·3	−3·7	II. S.	3–2	2,1	+1·7
25 22 43 29·2	M	15 3 28·00	27·96	+0·04	−14 44 37·7	36·0	−1·7	II. S.	3	4	+0·8
27 22 36 8·7	M	15 3 59·38	59·17	+0·21	−14 39 7·1	4·2	−2·9	II. S.	3–2	F,c4,3	+1·2
29 22 31 15·1	M	15 6 58·03	57·91	+0·12	−14 50 14·2	11·9	−2·3	II. S.	3	3	+0·6

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension.		O−C.	Declination.		O−C.	Limbs.	Definition.	Remarks.	Day Corr.
		Observed.	Comp.		Observed.	Comp.					
1887. d h m s		h m s	s	s	° ′ ″	″	″				″
Dec. 1 22 28 24·4	M	15 11 60·05	59·94	+0·11	−15 14 29·9	29·3	−0·6	II. S.	3	3,2	+0·9
5 22 27 21·2	M	15 26 42·84	42·85	−0·01	−16 29 10·3	8·4	−1·9	II. S.	3	4,3	+1·0
6 22 27 49·8	C	15 31 8·11	7·90	+0·21	−16 51 10·6	9·6	−1·0	II. S.	3-4	4,3	+0·5
8 22 29 26·6	C	15 40 38·30	38·22	+0·08	−17 37 15·7	14·7	−1·0	II. S.	3-4	3,2	+0·1
9 22 30 32·3	M	15 45 40·74	40·69	+0·05	−18 0 53·8	52·1	−1·7	II. S.	3-4	6,4	+1·1
11 22 33 12·6	M	15 56 14·54	14·46	+0·08	−18 48 23·6	21·2	−2·4	II. S.	3	4	+0·1
13 22 36 25·3	M	16 7 20·91	20·56	+0·35	−19 35 12·1	10·5	−1·6	C.	3-4	2,0	...
14 22 38 11·8	C	16 13 4·23	3·92	+0·31	−19 58 2·5	2·1	−0·4	II. S.	3-4	3,1	+0·6
15 22 40 4·2	M	16 18 53·53	53·36	+0·17	−20 20 24·2	23·0	−1·2	II. S.	2-3	4,3	+0·5
16 22 42 2·6	C	16 24 48·76	48·38	+0·38	−20 42 8·5	8·2	−0·3	II. C.	...	3,2	+0·2
20 22 50 42·5	C	16 49 16·39	16·25	+0·14	−22 1 46·5	45·6	−0·9	C.	3-4	5,4	0·0
21 22 53 2·9	M	16 55 33·69	33·59	+0·10	−22 19 32·9	31·5	−1·4	C.	3-4	1	+0·3
22 22 55 26·9	C	17 1 54·61	54·59	+0·02	−22 36 19·7	19·4	−0·3	C.	3-4	2	−0·1
27 23 8 14·9	M	17 34 27·55	27·65	−0·10	−23 44 33·3	32·4	−0·9	C.	3-4	2,1	−0·3
1888.											
Jan. 3 23 27 58·3	C	18 21 50·06	50·15	−0·09	−24 30 10·5	10·5	0·0	C.	3-4	*f* 4,3	+0·3
4 23 30 55·8	M	18 28 44·62	44·44	+0·18	−24 31 29·8	29·9	+0·1	C.	...	F,p4,3	+0·5
24 0 30 19·2	F	20 43 12·38	12·08	+0·30	−20 19 36·6	36·5	−0·1	C.	...	*f*,c 4,2	+0·9
30 0 48 51 6	C	21 25 27·12	27·11	+0·01	−17 5 2·2	1·9	−0·3	I. C.	3-4	3,4	0·0
Feb. 1 0 54 45·0	C	21 39 14·68	14·55	+0·13	−15 48 29·4	29·2	−0·2	I. C.	3-4	2	0·0
2 0 57 36·4	M	21 46 3·08	2·93	+0·15	−15 8 15·8	13·7	−2·1	C.	3	2	+1·3
6 1 8 9·5	P	22 12 24·07	24·10	−0·03	−12 16 4·3	2·8	−1·5	I. S.	3	3	+1·7
10 1 16 28·5	M	22 36 30·66	30·65	+0·01	− 9 12 59·3	58·6	−0·7	I. S.	3-4	2	−0·3
13 1 20 16·4	C	22 52 8·86	9·07	−0·21	− 6 57 9·9	8·6	−1·3	I. S.	3	3,1	+0·9
14 1 20 54·3	C	22 56 43·39	43·50	−0·11	− 6 13 48·8	48·1	−0·7	I. S.	3-4	4,2	+0·4
15 1 21 9·3	P	23 0 55·04	55·09	−0·05	− 5 32 5·0	2·6	−2·4	I. S.	3	4	+0·7
16 1 20 59·1	M	23 4 41·37	41·56	−0·19	− 4 52 17·6	16·1	−1·5	I. S.	3	2	+0·7
20 1 15 27·2	M	23 14 54·71	54·62	+0·09	− 2 41 5·2	4·5	−0·7	I. S.	2-3	3	+0·6
Mar. 16 22 45 14·7	M	22 26 47·91	47·83	+0·08	− 8 38 59·8	58·8	−1·0	II. N.	2	5	+0·9
18 22 39 0·1	M	22 28 25·46	25·44	+0·02	− 9 0 4·8	5·0	+0·2	II. N.	...	2	+0·5
23 22 28 50·1	P	22 37 56·47	56·51	−0·04	− 9 12 56·0	56·8	+0·8	II. N.	2-3	5	+0·6
25 22 26 34·7	P	22 43 33·84	33·74	+0·10	− 9 3 14·5	13·8	−0·7	II. C.	3	3	+0·2
26 22 25 46·4	C	22 46 42·01	41·83	+0·18	− 8 55 24·4	25·4	+1·0	II. C.	2-3	4	+0·1
27 22 25 10·0	M	22 50 2·00	1·81	+0·19	− 8 45 42·0	43·4	+1·4	II. N.	...	3,2	0·0
28 22 24 44·5	C	22 53 33·00	32·90	+0·10	− 8 34 12·2	11·4	−0·8	II. N.	3	3	+0·4
Apr. 3 22 25 29·0	M	23 17 56·91	56·90	+0·01	− 6 49 24·0	23·3	−0·7	II. N.	2	4	+0·6
6 22 27 35·9	C	23 31 53·83	53·59	+0·24	− 5 36 9·9	9·9	0·0	II. N.	2-3	4,2	+0·6
9 22 30 39·6	P	23 46 47·69	47·86	−0·17	− 4 10 32·8	29·9	−2·9	II. N.	3	3	+1·3
12 22 34 36·0	P	0 2 34·36	34·28	+0·08	− 2 33 19·9	19·3	−0·6	II. N.	2-3	1	+0·8
15 22 39 22·1	M	0 19 10·97	10·91	+0·06	− 0 45 30·1	29·6	−0·5	II. N.	3-2	6	+1·2
19 22 47 2·2	M	0 42 38·54	38·32	+0·22	+ 1 53 23·3	23·2	+0·1	II. N.	3-2	*f* 3	+0·2
26 23 4 24·7	P	...	...	...	+ 7 6 30·8	32·1	−1·3	N.	3	2	+0·7
27 23 7 21·5	M	1 34 33·58	33·64	−0·06	+ 7 54 10·3	11·0	−0·7	II. N.	3-2	*f* 2,1	+0·7
May 3 23 27 52·4	M	2 18 47·17	47·28	−0·11	+12 48 15·8	17·8	−2·0	II. N.	2	4,3	+0·4
June 1 1 30 12·8	C	6 11 51·26	51·32	−0·06	+25 34 6·2	8·1	−1·9	I. S.	2-3	5	+0·1

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension.		O—C.	Declination.		O—C.	Limbs.	Definition.	Remarks.	Day Corr.
		Observed.	Comp.		Observed.	Comp.					
1888. d h m s		h m s	s	s	° ′ ″	″	″				″
June 7 1 42 42·2	C	6 48 2·04	2·25	−0·21	+24 43 2·8	2·6	+0·2	I. C.	2–3	5	+0·4
8 1 43 55·5	M	6 53 12·11	12·04	+0·07	+24 29 56·8	57·7	−0·9	I. S.	2	6	+0·5
12 1 46 9·5	P	7 11 12·70	12·80	−0·10	+23 28 32·8	33·6	−0·8	I. S.	2	6	+0·3
18 1 41 4·4	P	7 29 46·09	46·25	−0·16	+21 40 38·1	37·8	+0·3	I. N.	...	*f* 3	−0·2
19 1 39 10·6	C	7 31 48·60	48·62	−0·02	+21 22 6·4	5·8	+0·6	I. N.	3	4	+0·5
20 1 36 58·1	M	7 33 32·22	32·15	+0·07	...	...	...	I.	3	F 5	...
21 1 34 26·2	C	7 34 56·47	56·60	−0·13	+20 45 26·3	27·7	−1·4	I. N.	2–3	F 4	+0·1
Aug. 2 22 48 48·5	P	7 38 23·47	23·58	−0·11	+20 50 6·0	9·0	−3·0	II. S.	2–3	3	+0·8
8 23 6 15·9	P	8 19 33·12	33·11	+0·01	+20 12 44·0	45·7	−1·7	II. S.	3–4	4	+0·1
9 23 10 1·2	C	8 27 15·63	15·50	+0·13	+19 57 31·0	32·1	−1·1	II. S.	3–2	4	+1·0
12 23 22 5·1	M	8 51 11·17	11·31	−0·14	+18 55 42·3	42·6	−0·3	II. C.	3	6	+0·3
13 23 26 16·3	C	8 59 19·54	19·52	+0·02	+18 29 53·0	54·2	−1·2	II. S.	2–3	2	0·0
16 23 38 52·6	P	9 23 47·62	47·85	−0·23	+16 58 25·1	25·2	−0·1	II. S.	...	5	+0·7
31 0 27 54·5	M	...	...	...	+ 7 3 59·6	59·6	0·0	N.	3	6	+0·2
Sept. 1 0 30 34·8	C	11 14 46·63	46·70	−0·07	+ 6 17 9·2	7·5	+1·7	I. N.	3	3,2	+0·7
4 0 38 0·1	P	11 34 2·82	2·86	−0·04	+ 3 56 22·5	21·9	+0·6	I. N.	3	3,1	+0·6
17 1 1 59·1	P	12 49 20·91	20·88	+0·03	− 5 48 22·8	22·3	−0·5	I. N.	4–3	4	+0·9
29 1 15 32·4	M	13 50 15·05	14·98	+0·07	−13 27 5·2	6·2	+1·0	I. N.	2–3	2	+0·6
Oct. 2 1 17 36·6	C	14 4 9·29	9·08	+0·21	−15 3 31·0	30·5	−0·5	I. N.	2–3	4	+1·3
3 1 18 8·2	P	14 8 37·53	37·56	−0·03	−15 33 37·3	36·9	−0·4	I. N.	...	1	+0·5
4 1 18 34·5	C	14 13 0·41	0·54	−0·13	−16 2 36·2	37·3	+1·1	I. N.	3	3,1	−1·0
5 1 18 54·9	M	...	...	...	−16 30 28·0	28·3	+0·3	N.	2–3	2	−0·5
9 1 19 1·5	M	14 33 10·28	10·22	+0·06	−18 8 56·7	57·2	+0·5	I. N.	3–4	3	−0·5
13 1 16 22·1	C	14 46 16·59	16·64	−0·05	−19 22 34·1	34·8	+0·7	I. N.	3–4	5,3	−0·2
16 1 11 41·5	P	14 53 24·90	25·01	−0·11	−19 56 53·0	52·6	−0·4	I. N.	2–3	4	+0·1
22 0 51 44·1	C	14 57 3·52	3·53	−0·01	−19 50 10·5	10·0	−0·5	I. N.	2–3	4,2	−0·3
23 0 46 38·3	P	14 55 53·47	53·61	−0·14	−19 36 34·1	33·3	−0·8	I. N.	4–3	*f* 3	+1·9
Nov. 7 22 50 15·4	M	14 2 16·28	16·02	+0·26	−10 36 52·0	50·2	−1·8	II. S.	2–3	6	−0·5
11 22 36 10·0	M	14 3 54·88	54·81	+0·07	−10 11 9·0	6·6	−2·4	II. S.	3–2	5	+1·2
13 22 32 40·1	M	14 8 17·43	17·30	+0·13	−10 27 46·0	45·0	−1·0	II. S.	3–2	2	−0·4
16 22 30 46·1	C	14 18 12·77	12·52	+0·25	−11 19 28·9	29·5	+0·6	II. S.	3–4	2,1	+0·5
18 22 31 11·7	P	14 26 31·65	31·64	+0·01	−12 6 33·8	34·1	+0·3	II. S.	3	3,2	+0·3
19 22 31 48·4	M	14 31 4·97	4·94	+0·03	−12 32 44·4	42·1	−2·3	II. S.	3–4	4	+0·1
22 22 34 52·0	C	14 45 58·76	58·60	+0·16	−13 57 43·5	43·2	−0·3	II. S.	3–4	2	+0·9
26 22 41 1·0	M	15 7 54·95	54·77	+0·18	−15 57 45·1	43·7	−1·4	II. S.	2–3	3	+0·2
27 22 42 49·2	P	15 18 40·00	40·03	−0·03	−16 27 44·7	44·1	−0·6	II. S.	3–4	2,1	+0·5
Dec. 4 22 57 32·8	M	15 56 1·95	1·90	+0·05	−19 45 18·7	16·8	−1·9	II. S.	3–2	5,4	+0·4
5 22 59 53·3	C	16 2 19·43	19·32	+0·11	−20 10 47·7	48·2	+0·5	II. S.	3–4	1,0	...
14 23 22 59·5	M	17 0 58·41	58·32	+0·09	−23 17 36·9	35·1	−1·8	II. C.	2–3	*f* 5	+0·7
1889.											
Jan. 8 0 36 38·4	C	19 49 26·83	26·89	−0·06	−23 13 24·2	24·7	+0·5	I. C.	3	3,2	−0·3
10 0 42 59·2	C	20 3 41·72	41·91	−0·19	−22 34 5·7	5·2	−0·5	I. C.	3–4	4,3	0·0
11 0 46 7·4	P	20 10 47·03	47·35	−0·32	−22 12 3·3	2·7	−0·6	I. N.	3–4	5	+0·6
24 1 20 27·8	C	21 36 28·30	28·36	−0·06	−15 17 10·9	10·7	−0·2	I. S.	3–4	3,2	−0·2
25 1 22 3·9	P	21 42 1·20	1·19	+0·01	−14 38 28·2	26·8	−1·4	I. S.	3–4	3	0·0

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1889. d h m s		h m s	s	s	° ′ ″	″	″				″
Jan. 26 1 23 23·5	C	21 47 17·56	17·65	−0·09	−13 59 37·0	35·4	−1·6	I. S.	3–4	2,1	−0·5
28 1 25 4·9	C	21 56 52·40	52·60	−0·20	−12 42 40·8	40·3	−0·5	I. S.	3–4	3	+0·2
30 1 25 13·2	C	22 4 53·80	53·81	−0·01	−11 29 8·3	7·3	−1·0	I. S.	3	3	+0·1
Feb. 21 23 13 30·4	M	21 23 30·16	29·81	+0·35	−12 6 25·5	27·5	+2·0	II. N.	3–2	5	+0·1
26 22 48 32·8	C	21 18 11·17	11·17	0·00	−13 38 9·0	10·3	+1·3	II. C.	3	4	+0·4
Mar. 3 22 34 19·1	M	21 23 37·91	37·64	+0·27	−14 23 3·5	3·6	+0·1	II. N.	2	3	+0·6
6 22 29 48·0	C	21 30 55·70	55·49	+0·21	−14 27 23·6	23·8	+0·2	II. N.	3–2	3,2	+0·7
7 22 28 49·7	M	21 33 53·86	53·68	+0·18	−14 25 14·8	15·6	+0·8	II. N.	3	3	+1·4
14 22 27 42·4	C	22 0 22·22	22·15	+0·07	−13 23 39·4	40·6	+1·2	II. N.	2–3	4,3	+0·2
15 22 28 11·2	M	22 4 47·67	47·68	−0·01	−13 8 33·6	35·8	+2·2	II. N.	2–3	3	+0·4
17 22 29 31·5	M	22 14 1·24	1·12	+0·12	−12 33 59·6	60·2	+0·6	II. N.	2–3	5	0·0
18 22 30 21·7	C	22 18 48·19	48·07	+0·12	−12 14 31·1	32·5	+1·4	II. N.	3	4,2	−0·3
22 22 34 41·3	P	22 38 54·65	54·67	−0·02	−10 42 46·3	46·3	0·0	II. N.	3	4	0·0
27 22 41 57·4	M	23 5 54·69	54·60	+0·09	− 8 18 17·7	17·6	−0·1	II. N.	3–2	5	+0·8
Apr. 2 22 53 0·1	C	23 40 38·52	38·53	−0·01	− 4 44 22·9	22·4	−0·5	II. N.	3–4	4,3	+0·4
8 23 6 35·2	M	0 17 55·21	55·09	+0·12	− 0 30 4·4	4·9	+0·5	II. N.	2	4,3	+0·4
30 0 20 34·1	M	2 54 53·94	53·94	0·00	+17 16 53·8	58·7	−4·9	I. C.	2–3	3	+0·7
May 11 1 6 45·1	M	4 24 34·59	34·57	+0·02	+23 46 40·0	42·2	−2·2	I. S.	2–3	3	+0·5
July 2 22 49 40·8	C	5 36 5·26	5·25	+0·01	+19 3 59·1	60·4	−1·3	II. C.	3	F 4	+1·9
3 22 46 44·2	M	...	...	...	+19 12 20·1	19·8	+0·3	C.	...	*f* 4	+0·3
8 22 37 24·3	C	5 47 26·10	26·06	+0·04	+20 7 47·3	48·0	−0·7	II.N.S.	1–2	2	+0·3
16 22 41 8·8	M	6 22 43·68	43·74	−0·06	+21 49 28·0	27·6	+0·4	II. N.	2–3	6,5	+0·4
17 22 43 10·8	P	6 28 42·55	42·67	−0·12	+21 59 40·0	41·2	−1·2	II. S.	4–3	3	0·0
21 22 54 29·3	C	6 55 49·18	49·20	−0·02	+22 26 32·9	35·0	−2·1	II. S.	3–4	4	+0·3
22 22 58 2·4	M	7 3 19·40	19·36	+0·04	+22 28 47·7	49·3	−1·6	II. S.	3–2	4	+0·3
Aug. 1 23 42 53·8	M	8 27 43·72	43·78	−0·06	+20 35 21·0	20·7	+0·3	C.	3	4,3	+0·4
12 0 26 4·5	C	9 50 27·04	27·06	−0·02	+14 55 9·1	9·5	−0·4	I. C.	3–4	F 3,2	+0·1
21 0 53 29·0	C	10 53 25·06	25·08	−0·02	+ 8 20 11·7	11·6	+0·1	I. N.	3–4	3,2	+0·1
22 0 55 53·9	M	10 59 46·96	46·59	+0·37	+ 7 34 45·8	47·2	−1·4	I. S.	3–4	2	0·0
28 1 8 7·4	M	11 35 41·74	41·71	+0·03	+ 3 3 26·7	25·9	+0·8	I. N.	2–3	3	0·0
Sept. 2 1 15 46·2	C	12 3 4·57	4·68	−0·11	− 0 36 16·1	17·4	+1·3	C.	3–4	2	+0·4
5 1 19 23·2	C	12 18 31·78	31·81	−0·03	− 2 43 11·9	12·5	+0·6	I. N.	3–4	3	+0·1
11 1 24 30·7	M	12 47 19·46	19·61	−0·15	− 6 41 37·5	37·5	0·0	I. N.	2–3	4	+0·1
12 1 25 5·3	P	12 51 50·77	50·61	+0·16	− 7 18 57·0	56·6	−0·4	I. N.	3–4	2	+0·3
13 1 25 34·3	M	12 56 16·41	16·39	+0·02	− 7 55 27·9	27·7	−0·2	I. N.	3–2	3,2	+0·9
30 1 13 5·3	M	13 50 46·75	46·80	−0·05	−15 9 41·4	42·8	+1·4	I. N.	2–3	3	+0·3
Oct. 2 1 7 12·3	M	13 52 45·81	45·77	+0·04	−15 23 37·8	38·0	+0·2	I. N.	3–2	*f* 3	+1·1
27 22 38 41·1	P	13 6 20·64	20·67	−0·03	− 5 0 31·3	29·3	−2·0	II. S.	3–4	3	+0·3
Nov. 4 22 38 30·4	M	13 37 42·31	42·36	−0·05	− 7 51 19·4	17·7	−1·7	II. S.	3–4	3	+1·3
10 22 47 35·5	M	14 10 28·31	28·31	0·00	−11 17 4·2	4·0	−0·2	II. S.	3–2	2,1	−0·4
12 22 51 23·9	C	...	...	...	−12 28 53·7	53·8	+0·1	C.	3–4	3	+0·7
20 23 8 40·9	M	15 11 2·68	2·70	−0·02	−17 4 11·1	8·8	−2·3	II. S.	3–2	3	+1·5

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension.		O—C.	Declination.		O—C.	Limbs.	Definition.	Remarks.	Day Corr.
		Observed.	Comp.		Observed.	Comp.					
1889. d h m s		h m s	s	s	° ′ ″	″	″				″
Dec. 28 0 53 51·5	C	19 22 23·25	23·28	−0·03	−24 17 46·7	47·0	+0·3	I. N.	3	2	+0·4
1890.											
Jan. 10 1 25 16·4	C	20 45 8·54	8·62	−0·08	−19 16 41·5	40·4	−1·1	I. S.	3-4	2,1	−0·8
22 1 5 37·5	C	21 12 45·11	45·04	+0·07	−14 13 56·2	56·2	0·0	I. S.	3-4	1	+0·2
Feb. 7 22 57 10·8	C	20 10 58·75	58·61	+0·14	−17 2 48·7	49·0	+0·3	II. C.	2-3	2	+0·1
9 22 48 9·8	C	20 9 49·40	49·22	+0·18	−17 29 23·9	24·9	+1·0	II. N.	3	2	+0·1
19 22 28 41·1	C	20 29 43·00	42·87	+0·13	−18 25 47·5	48·4	+0·9	II. N.	2-3	2	0·0
25 22 29 54·8	C	20 54 36·25	36·12	+0·13	−17 54 18·4	18·4	0·0	II. N.	3-4	2,1	+0·1
28 22 32 34·1	M	21 9 5·60	5·53	+0·07	−17 20 9·4	9·3	−0·1	II. N.	2-3	2	+1·0
Mar. 4 22 37 34·5	M	21 29 53·07	52·87	+0·20	−16 15 48·8	48·9	+0·1	II. N.	2-3	2,1	+0·3
5 22 39 2·2	C	21 35 17·53	17·48	+0·05	−15 56 24·3	24·6	+0·3	II. N.	3-4	3,2	+0·7
7 22 42 10·8	C	21 46 19·78	19·67	+0·11	−15 13 39·0	39·5	+0·5	II. N.	3-4	2	−0·1
12 22 51 7·0	C	22 15 0·21	0·09	+0·12	−13 4 3·9	5·6	+1·7	II. N.	3-4	3	0·0
20 23 8 5·6	M	23 3 34·04	33·95	+0·09	− 8 31 18·3	19·4	+1·1	II. N.	2-3	3	+0·4
23 23 15 16·6	M	23 22 35·81	35·70	+0·11	− 6 29 2·9	3·4	+0·5	II. N.	2-3	3	0·0
30 23 34 2·3	C	0 9 0·48	0·47	+0·01	− 1 4 24·0	24·2	+0·2	II. N.	3-4	2	+0·5
May 1 1 16 42·6	C	3 54 10·83	10·94	−0·11	+22 51 53·3	53·8	−0·5	I. S.	3	3,2	+0·6
June 16 22 35 52·5	C	4 18 12·48	12·45	+0·03	+17 13 33·4	33·1	+0·3	II. N.	2-3	*f* 4	+0·1
23 22 28 18·5	P	4 38 13·20	13·29	−0·09	...	...	...	II.	3-4	5	...
27 22 30 26·5	M	4 56 7·72	7·59	+0·13	+20 1 27·3	29·0	−1·7	II. N.	2-3	F,c 4	+1·1
July 8 23 0 2·0	W	6 9 10·25	10·23	+0·02	+23 5 45·8	46·0	−0·2	C.	...	5	+0·1
16 23 39 1·6	AC	7 19 48·71	48·95	−0·24	+23 15 24·7	26·0	−1·3	C.	...	2,1	0·0
Aug. 6 1 4 43·9	C	10 4 36·08	36·14	−0·06	+13 17 18·3	17·5	+0·8	I. N.	2-3	2,1	+0·9
13 1 20 50·3	C	10 48 21·11	21·20	−0·09	+ 8 18 9·0	7·8	+1·2	I. N.	2-3	3	+0·4
18 1 28 38·5	C	11 15 53·40	53·42	−0·02	+ 4 44 26·6	26·1	+0·5	I. N.	2-3	2,1	−0·2
Sept. 2 1 35 25·0	M	12 21 49·36	49·26	+0·10	− 4 48 49·0	49·1	+0·1	I. N.	2-3	4	+0·3
10 1 26 7·2	M	12 44 2·39	2·41	−0·02	− 8 22 31·4	31·4	0·0	I. N.	2-3	2	+1·1
Oct. 7 22 53 56·4	P	12 1 50·09	50·11	−0·02	+ 0 13 29·7	31·3	−1·6	II. S.	...	f 2	−0·2
Nov. 2 23 12 37·6	M	14 3 4·75	4·71	+0·04	−11 13 9·4	7·7	−1·7	C.	3-4	*d*,p2,1	+1·3
3 23 14 51·9	C	14 9 15·97	16·00	−0·03	−11 52 30·8	31·8	+1·0	II. S.	3-4	2,1	+0·8
5 23 19 23·2	W	14 21 41·16	41·25	−0·09	−13 9 51·8	49·1	−2·7	II. S.	...	2	+1·0
1891.											
Jan. 26 22 37 12·4	AC	19 2 41·19	41·17	+0·02	−20 12 33·9	32·0	−1·9	C.	...	f,d 1,2	+0·2
Feb. 3 22 27 54·8	M	19 24 54·46	54·37	+0·09	−21 0 29·5	30·4	+0·9	II. N.	3	1	+0·9
6 22 28 57·1	AC	19 37 46·57	46·39	+0·18	−21 3 36·8	36·3	−0·5	C.	...	*d* 1	+0·2
13 22 36 47·7	AC	20 13 14·38	14·51	−0·13	−20 31 2·1	0·6	−1·5	C.	...	1	+0·3
16 22 41 43·9	W	20 30 1·01	0·97	+0·04	−19 58 40·4	40·6	+0·2	C.	2	1	+0·4
22 22 53 22·9	M	21 5 21·32	21·31	+0·01	−18 19 31·2	28·0	−3·2	C.	3	1	+0·2

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension.		O—C.	Declination.		O—C.	Limbs.	Definition.	Remarks.	Day Corr.
		Observed.	Comp.		Observed.	Comp.					
1891. d h m s		h m s	s	s	° ′ ″	″	″				″
Mar. 1 23 9 3·1	W	21 48 39·91	39·90	+0·01	−15 24 32·8	31·7	−1·1	C.	3–4	1	+0·3
2 23 11 26·0	AP	21 54 59·80	59·69	+0·11	−14 54 17·8	18·6	+0·8	C.	3–4	2	−2·7
4 23 16 17·6	M	22 7 45·32	45·23	+0·09	−13 49 58·1	58·2	+0·1	C.	3	1	+1·3
9 23 29 1·2	M	22 40 13·73	13·65	+0·08	−10 46 27·9	29·6	+1·7	II. N.	3	3	+0·5
15 23 45 29·2	AP	23 20 23·73	23·68	+0·05	− 6 24 43·1	41·7	−1·4	C.	3–4	3	+0·4
16 23 48 22·3	AC	23 27 13·89	14·06	−0·17	− 5 36 48·7	50·6	+1·9	C.	...	3	0·0
Apr. 2 0 40 5·2	M	1 22 10·16	10·26	−0·10	+ 8 56 52·0	53·6	−1·6	I. S.	3	1	+0·6
11 1 5 44·0	C	2 23 22·18	22·31	−0·13	+16 17 18·2	18·9	−0·7	I. S.	3	2	+0·2
17 1 13 23·8	P	2 54 42·56	42·68	−0·12	+19 27 53·9	55·5	−1·6	I. S.	3	*f*,h 2	−0·1
23 1 9 32·9	P	3 14 30·29	30·39	−0·10	+20 59 10·7	11·1	−0·4	I. S.	3	2	+0·6
May 28 22 30 52·1	M	2 57 19·44	19·47	−0·03	+12 55 51·5	51·3	+0·2	II. N.	2–3	f 5	−0·2
31 22 25 50·9	W	3 4 7·10	7·22	−0·12	+13 24 19·5	19·7	−0·2	II. N.	...	2	+0·1
June 9 22 23 49·0	AC	3 37 33·94	34·07	−0·13	+16 14 33·8	35·3	−1·5	II. N.	...	5,4	+0·2
15 22 32 57·8	M	4 10 23·61	23·65	−0·04	+18 49 46·2	45·7	+0·5	II. N.	2–3	3,4	+0·7
18 22 40 46·5	AP	4 30 3·21	3·24	−0·03	+20 9 57·0	58·0	−1·0	II. N.	3	2,3	+0·7
22 22 54 37·7	P	4 59 42·97	43·13	−0·16	+21 50 16·3	18·1	−1·8	II. N.	3	4	+0·1
July 11 0 27 36·5	AP	7 43 55·09	55·28	−0·19	+23 3 17·7	18·0	−0·3	C.	...	f 4	+0·4
15 0 46 40·2	C	8 18 48·13	48·25	−0·12	+21 30 14·1	12·8	+1·3	I. N.	3	3	+0·3
16 0 51 0·4	AP	8 27 5·54	5·62	−0·08	+21 2 16·8	16·3	+0·5	I. N.	3–4	3	+0·8
20 1 6 31·7	M	8 58 25·66	25·70	−0·04	+18 56 6·4	6·2	+0·2	I. N.	3	d,p 4,5	+0·6
31 1 34 59·1	AC	10 10 19·86	20·08	−0·22	+12 1 20·5	18·7	+1·8	I. N.	...	2,3	+1·2
Aug. 7 1 43 34·6	P	10 46 32·65	32·76	−0·11	+ 7 25 29·6	29·5	+0·1	I. N.	2–3	2	−0·2
11 1 45 24·4	W	11 4 8·97	8·99	−0·02	+ 4 54 30·0	30·0	0·0	I. N.	...	3	+0·6
14 1 45 14·8	P	11 15 49·00	49·14	−0·14	+ 3 7 32·1	31·1	+1·0	I. N.	2–3	4	+0·1
18 1 42 47·5	C	11 29 7·50	7·62	−0·12	+ 0 56 58·4	58·7	−0·3	I. N.	3	2	−0·3
19 1 41 44·2	M	11 32 0·60	0·64	−0·04	+ 0 27 5·8	4·5	+1·3	I. N.	2–3	4	+0·2
20 1 40 29·2	P	11 34 42·02	42·04	−0·02	− 0 1 30·7	32·2	+1·5	I. N.	2–3	3	−0·3
27 1 25 25·9	C	11 47 12·05	12·10	−0·05	− 2 35 10·3	9·4	−0·9	I. N.	3	*t* 3,2	−0·5
Sept. 29 22 47 9·3	M	11 22 32·34	32·27	+0·07	+ 5 33 46·9	47·6	−0·7	II. S.	3	3	+0·3
Nov. 17 0 32 9·2	C	16 17 4·09	4·14	−0·05	−23 1 37·6	36·9	−0·7	I. N.	3–4	2	+1·0
Dec. 1 1 7 11·3	M	17 47 23·71	23·78	−0·07	...	...	...	I.	3	2	...
16 1 20 48·9	C	19 0 12·00	11·98	+0·02	−23 52 24·7	24·7	0·0	I. C.	3–4	2,1	−0·4
17 1 18 38·8	M	19 1 58·03	58·06	−0·03	−23 36 35·0	33·9	−1·1	I. N.	3	*f* 3	+1·2
1892.											
Jan. 6 22 47 27·1	C	17 53 9·27	9·07	+0·20	−20 20 28·8	28·3	−0·5	II. S.	3	2	+0·8
12 22 29 39·2	M	17 58 57·73	57·60	+0·13	−21 6 45·0	44·8	−0·2	II. S.	3	2,1	+0·1
20 22 27 59·0	M	18 28 49·72	49·70	+0·02	−22 14 21·2	21·2	0·0	II. N.	3	4	+1·3
24 22 32 23·2	C	18 49 0·87	0·82	+0·05	−22 32 59·8	60·0	+0·2	II. N.	3	3	+0·8
Feb. 1 22 46 43·9	M	19 34 56·47	56·39	+0·08	−22 20 25·2	26·0	+0·8	II. N.	2–3	f 2	+0·8
4 22 53 19·4	W	19 53 22·64	22·49	+0·15	−21 56 1·8	1·4	−0·4	II. N.	...	1	+1·8
8 23 2 46·3	C	20 18 37·36	37·34	+0·02	−21 5 29·0	29·2	+0·2	II. N.	3–4	2	−0·1

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1892. d h m s		h m s	s	s	° ′ ″	″	″				″
Feb. 9 23 5 13·8	AC	20 25 1·80	1·75	+0·05	−20 49 34·5	33·9	−0·6	C.	3–4	3	+0·2
10 23 7 43·2	M	20 31 28·19	28·11	+0·08	−20 32 17·5	18·5	+1·0	II.N.	3	1	+0·1
14 23 17 57·9	C	20 57 30·76	30·72	+0·04	...	...	...	II.	3–4	2	...
16 23 23 14·2	M	21 10 41·08	41·00	+0·08	−18 20 21·5	21·6	+0·1	II. N.	2–3	2	+0·5
18 23 28 35·8	AC	21 23 56·65	56·59	+0·06	−17 25 27·1	26·1	−1·0	C.	...	3	−0·3
19 23 31 18·5	W	21 30 36·38	36·27	+0·11	−16 55 53·9	54·4	+0·5	II. N.	3–4	2,1	+0·4
23 23 42 21·4	C	21 57 27·24	27·29	−0·05	−14 43 59·3	59·1	−0·2	II. N.	...	3,2	+0·1
24 23 45 10·2	W	22 4 13·11	13·12	−0·01	−14 7 34·0	33·6	−0·4	II. N.	3–4	3,2	+1·4
Mar. 11 0 29 53·9	C	23 48 12·49	12·52	−0·03	− 2 26 39·0	38·4	−0·6	I. C.	2–3	2	+0·2
17 0 48 8·6	P	0 30 9·42	9·46	−0·04	+ 3 10 16·9	17·9	−1·0	I. S.	3–4	2	−0·2
23 1 3 26·4	C	1 9 9·05	9·16	−0·11	+ 8 33 36·6	38·3	−1·7	I. S.	3–4	2	−0·3
Apr. 5 1 4 27·5	W	2 1 25·53	25·59	−0·06	+15 39 18·2	19·4	−1·2	I. S.	...	2	+0·1
May 11 22 23 40·1	P	1 46 4·33	4·35	−0·02	+ 7 31 37·3	37·5	−0·2	II. N.	2	4	−0·5
13 22 21 29·4	C	1 51 46·30	46·36	−0·06	+ 7 57 3·8	4·1	−0·3	II. N.	2	2	+0·1
15 22 20 8·3	AP	1 58 18·12	18·12	0·00	+ 8 29 59·2	58·3	+0·9	II. N.	2–3	5	0·0
18 22 19 34·5	W	2 9 33·91	33·98	−0·07	+ 9 31 47·4	47·4	0·0	II. N.	...	4	+0·3
26 22 26 11·4	AP	2 47 44·34	44·39	−0·05	+13 13 25·1	25·6	−0·5	II. N.	3–4	5,4	−0·1
June 3 22 44 50·0	W	3 37 58·48	58·62	−0·14	+17 41 55·2	54·2	+1·0	II. N.	3–4	2,1	−0·2
6 22 55 13·3	AP	4 0 13·14	13·31	−0·17	+19 23 30·8	30·2	+0·6	II. N.	3–4	5	+0·1
8 23 3 13·7	W	4 16 8·01	8·03	−0·02	+20 28 22·6	22·7	−0·1	II. N.	3–4	2,3	+0·8
12 23 21 43·6	W	4 50 27·15	27·38	−0·23	+22 24 33·3	34·1	−0·8	II. N.	...	4	+0·5
16 23 42 58·5	P	5 27 31·83	32·05	−0·22	+23 51 53·9	54·4	−0·5	C.	...	4	−0·2
July 1 0 58 7·9	C	7 38 5·39	5·61	−0·22	+23 27 9·3	9·1	+0·2	I. S.	2–3	4,3	+0·1
8 1 24 55·6	P	8 32 33·35	33·53	−0·18	+20 33 22·5	22·3	+0·2	I. N.	2–3	4,3	−0·1
11 1 33 31·3	C	8 53 0·20	0·26	−0·06	+19 0 40·9	41·6	−0·7	I. N.	3	4	+0·2
12 1 36 0·8	AP	8 59 26·67	26·62	+0·05	+18 28 13·3	12·7	+0·6	I. N.	3	4	0·0
20 1 49 28·8	AP	...	...	...	+13 53 15·3	15·0	+0·3	N.	3–4	3	+0·2
Aug. 2 1 46 52·1	AP	10 33 7·38	7·36	+0·02	+ 6 51 49·0	47·6	+1·4	I. N.	3	3	0·0
3 1 45 15·2	P	10 35 26·82	26·98	−0·16	+ 6 25 5·8	6·5	−0·7	I. N.	2	2	+0·1
12 1 19 3·2	C	10 44 39·55	39·69	−0·14	+ 3 41 35·8	34·7	+1·1	I. N.	2–3	2,1	+0·4
Sept. 6 22 53 42·6	C	10 1 25·44	25·43	+0·01	+11 23 6·8	6·5	+0·3	II. S.	...	3,2	−0·3
9 22 50 6·8	C	10 9 38·67	38·55	+0·12	+11 30 58·3	58·8	−0·5	II. S.	3	1	+0·6

Digitized by Google

Right Ascension and Declination of Venus.

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1884. d h m s		h m s	s	s	° ′ ″	″	″				″
Feb. 16 2 26 13·5	P	0 10 0·34	0·59	−0·25	+ 0 18 37·6	38·6	−1·0	I. S.	...	1	+0·2
19 2 27 29·2	M	0 23 5·98	6·11	−0·13	+ 1 53 13·8	13·6	+0·2	I. S.	...	1	+0·3
25 2 29 56·8	C	0 49 13·30	13·39	−0·09	+ 5 1 7·1	9·9	−2·8	I. S.	...	1	−1·1
26 2 30 21·7	M	0 53 34·77	34·55	+0·22	+ 5 32 10·4	11·3	−0·9	I. S.	...	...	...
Mar. 4 2 33 16·8	P	...	...	...	+ 9 5 21·6	23·7	−2·1	S.	...	...	...
10 2 35 57·3	P	1 50 26·48	26·61	−0·13	+12 0 24·9	28·2	−3·3	I. S.	...	1	+0·4
11 2 36 25·5	M	...	...	...	+12 28 44·8	46·2	−1·4	S.	...	...	...
13 2 37 22·8	C	2 3 41·86	41·96	−0·10	+13 24 28·5	30·6	−2·1	I. S.	...	1	+0·3
18 2 39 55·4	R	2 25 57·64	57·34	+0·30	+15 38 21·2	21·2	0·0	I. S.	...	1	+0·7
22 2 42 6·6	P	2 43 55·12	55·40	−0·28	+17 19 1·5	2·2	−0·7	I. S.	...	2	+0·9
25 2 43 51·5	R	2 57 30·24	29·90	+0·34	+18 30 22·6	22·0	+0·6	I. S.	...	1	−0·3
29 2 46 18·0	P	3 15 43·41	43·55	−0·14	+19 59 17·2	21·8	−4·6	I. S.	...	2,1	−0·1
Apr. 1 2 48 13·3	C	3 29 28·69	28·96	−0·27	+21 1 7·0	11·3	−4·3	I. S.	...	1	+0·1
2 2 48 52·8	P	3 34 4·81	4·95	−0·14	+21 20 47·3	48·5	−1·2	I. S.	...	2	−0·5
3 2 49 32·8	M	3 38 41·43	41·29	+0·14	+21 39 54·8	55·1	−0·3	I. S.	...	1	−1·0
4 2 50 12·7	M	3 43 18·03	17·95	+0·08	+21 58 29·4	30·7	−1·3	I. S.	...	...	...
5 2 50 53·0	M	...	...	...	+22 16 33·8	34·9	−1·1	S.	...	...	...
9 2 53 36·5	R	4 6 25·13	24·79	+0·34	+23 23 26·1	26·8	−0·7	I. S.	3–4	*u* 1	−0·5
10 2 54 17·3	P	...	...	...	+23 38 44·6	46·6	−2·0	S.	...	1	+0·7
21 3 1 37·6	M	5 1 46·18	46·19	−0·01	+25 48 55·4	60·0	−4·6	I. S.	...	2	+0·1
22 3 2 14·7	R	5 6 19·99	20·06	−0·07	+25 57 13·7	15·5	−1·8	I. S.	...	2	−0·3
24 3 3 26·5	C	5 15 25·10	25·26	−0·16	+26 11 53·5	57·8	−4·3	I. S.	...	2	+0·3
26 3 4 34·5	C	5 24 26·35	26·48	−0·13	+26 24 12·2	15·3	−3·1	I. S.	...	1	+2·4
29 3 6 7·3	M	5 37 49·04	49·14	−0·10	+26 38 10·4	12·0	−1·6	I. S.	...	2	+1·1
May 1 3 7 1·7	P	5 46 36·73	36·83	−0·10	+26 44 31·3	32·6	−1·3	I. S.	...	2,1	+0·4
6 3 8 45·2	M	6 8 3·29	3·42	−0·13	+26 50 15·3	17·5	−2·2	I. S.	...	1,0	...
9 3 9 20·7	C	6 20 28·26	28·37	−0·11	+26 47 1·0	4·1	−3·1	I. S.	...	1	+1·5
16 3 9 3·5	M	6 47 47·13	47·03	+0·10	...	...	...	I.	...	4	...
19 3 8 5·2	C	6 58 38·36	38·48	−0·12	...	...	...	I.	...	2	...
27 3 2 25·8	M	7 24 30·53	30·41	+0·12	+24 58 41·1	42·9	−1·8	I. N.	...	2,1	+2·4
28 3 1 21·4	C	7 27 22·44	22·60	−0·16	+24 49 6·9	7·7	−0·8	I. N.	...	2	+0·9
29 3 0 11·9	M	7 30 9·35	9·34	+0·01	+24 39 14·7	16·1	−1·4	I. N.	...	2	+1·4
June 5 2 49 16·2	C	7 46 47·73	47·75	−0·02	+23 24 1·4	4·1	−2·7	I. N.	...	1	+3·1
11 2 35 22·3	M	7 56 30·90	30·91	−0·01	+22 14 14·9	14·4	+0·5	I. N.	...	*f* 0	...
13 2 29 40·0	C	7 58 40·77	40·82	−0·05	+21 50 32·8	34·5	−1·7	I. N.	...	1	+1·0
17 2 16 29·3	M	...	...	...	+21 3 26·8	28·9	−2·1	N.	...	...	...
25 1 42 27·3	P	7 58 38·97	39·18	−0·21	+19 33 44·5	45·7	−1·2	I. N.	...	3	+0·7
July 4 0 51 57·2	C	7 43 29·64	29·77	−0·13	+18 7 3·5	7·1	−3·6	I. N.	...	2	+1·5
15 23 33 50·6	P	7 12 28·91	28·85	+0·06	+16 47 13·6	14·4	−0·8	II. N.	...	2	+0·2
17 23 20 56·1	M	...	...	...	+16 38 54·4	55·3	−0·9	N.	1–2	1	+1·8
27 22 25 26·1	P	6 51 11·76	11·66	+0·10	+16 21 19·7	21·4	−1·7	II. N.	...	2	+0·7

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1884. d h m s		h m s	s	s	° ′ ″	″	″				″
July 30 22 11 44·9	M	6 49 18·06	18·02	+0·04	+16 23 11·4	11·7	−0·3	II. N.	...	*f* 3	+1·7
31 22 7 31·1	P	6 48 60·11	59·96	+0·15	+16 24 25·0	23·7	+1·3	II. N.	...	3,2	−0·5
Aug. 3 21 55 47·6	M	6 49 4·36	4·30	+0·06	+16 29 26·4	26·7	−0·3	II. N.	...	2	+1·0
4 21 52 12·4	C	6 49 24·99	24·80	+0·19	+16 31 32·7	32·0	+0·7	II. N.	...	2,1	+1·1
6 21 45 28·7	C	6 50 33·36	33·31	+0·05	+16 36 10·3	9·6	+0·7	II. N.	...	2	+1·0
7 21 42 20·3	M	6 51 20·97	20·95	+0·02	+16 38 39·3	39·2	+0·1	II. N.	...	F,m 1	−0·2
11 21 31 10·6	P	6 55 55·73	55·51	+0·22	+16 49 9·8	12·2	−2·4	II. S.	...	1	−0·5
17 21 18 10·8	P	...	...	...	+17 4 5·0	6·2	−1·2	S.	...	...	...
19 21 14 42·9	C	7 10 57·76	57·89	−0·13	+17 8 8·6	6·4	+2·2	II. N.	...	1	−0·4
22 21 10 14·3	C	7 18 18·05	17·79	+0·26	+17 12 36·8	39·3	−2·5	II. S.	...	1	+0·3
28 21 3 29·2	P	7 35 11·20	11·11	+0·09	+17 14 44·7	45·5	−0·8	II. S.	...	1	+0·9
Sept. 14 20 55 54·2	P	8 34 36·34	36·30	+0·04	+16 8 5·8	7·1	−1·3	II. S.	...	1	+1·0
17 20 55 46·1	P	8 46 17·89	17·80	+0·09	+15 43 5·6	5·3	+0·3	II. S.	...	3	+2·1
21 20 55 56·9	C	9 2 14·90	14·70	+0·20	+15 3 7·3	8·6	−1·3	II. S.	...	2	+0·5
28 20 57 0·5	P	9 30 54·50	54·42	+0·08	+13 35 17·2	16·2	+1·0	II. S.	...	2	+0·8
Oct. 1 20 57 40·9	C	9 43 24·63	24·58	+0·05	+12 50 45·2	46·7	−1·5	II. S.	...	2	+0·4
9 20 59 55·0	C	...	...	...	+10 33 11·8	12·6	−0·8	S.	...	...	...
14 21 1 32·7	P	10 38 32·32	32·25	+0·07	+ 8 54 23·0	22·9	+0·1	II. S.	...	2	+1·7
16 21 2 13·8	P	10 47 6·64	6·56	+0·08	+ 8 12 22·7	22·0	+0·7	II. S.	...	2	+0·9
20 21 3 38·7	P	11 4 17·98	17·96	+0·02	+ 6 44 28·7	28·7	0·0	II. S.	...	1	+1·2
22 21 4 22·6	P	11 12 55·04	54·91	+0·13	+ 5 58 44·3	45·5	−1·2	II. S.	...	2	−0·1
28 21 6 38·7	P	11 38 50·85	50·83	+0·02	+ 3 35 27·4	27·8	−0·4	II. S.	...	1	−0·3
30 21 7 26·1	P	11 47 31·53	31·33	+0·20	+ 2 45 56·4	56·0	+0·4	II. S.	...	1	−0·6
Nov. 6 21 10 21·1	P	...	...	...	− 0 12 43·8	42·4	−1·4	S.	...	...	...
10 21 12 10·0	P	12 35 38·30	38·20	+0·10	− 1 57 24·1	22·7	−1·4	II. S.	4–3	2	+0·7
16 21 15 8·2	P	13 2 16·30	16·21	+0·09	− 4 35 53·5	51·4	−2·1	II. S.	...	2	+1·0
19 21 16 45·4	C	13 15 43·39	43·28	+0·11	− 5 55 2·4	1·8	−0·6	II. S.	...	1	+0·9
20 21 17 19·0	P	13 20 13·64	13·65	−0·01	− 6 21 17·7	19·5	+1·8	II. S.	...	1	+1·3
24 21 19 41·5	P	13 38 22·75	22·57	+0·18	− 8 5 42·3	41·3	−1·0	II. S.	3	d 1	+2·7
30 21 23 39·8	P	14 6 1·12	1·08	+0·04	−10 38 23·0	21·7	−1·3	II. S.	4–3	1,0	...
Dec. 3 21 25 52·1	P	14 20 3·42	3·29	+0·13	−11 52 12·9	12·0	−0·9	II. S.	...	1	+1·7
9 21 30 45·3	C	...	...	...	−14 13 10·3	5·8	−4·5	S.	3–4	D,u 1	+1·1
12 21 33 27·4	M	15 3 8·94	8·90	+0·04	−15 19 27·6	25·5	−2·1	II. S.	...	1	+1·0
15 21 36 20·0	C	...	...	...	−16 22 32·0	31·3	−0·7	S.	...	*d* 0	...
18 21 39 23·4	P	15 32 45·28	45·16	+0·12	−17 22 2·3	1·9	−0·4	II. S.	...	2	+0·4
19 21 40 26·9	M	15 37 45·50	45·36	+0·14	−17 41 0·9	0·5	−0·4	II. S.	3	d 1	−1·3
22 21 43 44·4	M	15 52 53·22	53·06	+0·16	−18 35 13·2	11·3	−1·9	II. S.	...	2	+0·9
28 21 50 50·2	C	16 23 39·53	39·28	+0·25	−20 10 6·6	3·8	−2·8	II. S.	3–4	D,u 2,1	+0·2
1885.											
Jan. 6 22 2 37·9	P	17 10 58.19	58·05	+0·14	−21 54 15·2	13·5	−1·7	II. S.	...	1	−0·5
13 22 12 31·6	M	17 48 29·36	29·48	−0·12	−22 39 54·0	51·8	−2·2	II. S.	3–4	*d* 1	+0·8
14 22 13 58·7	P	17 53 53·28	53·13	+0·15	...	...	...	II.	...	1	...
16 22 16 53·1	M	18 4 41·35	41·37	−0·02	−22 49 19·0	19·4	+0·4	II. N.	3–4	*d* 3	+1·3
18 22 19 48·8	C	18 15 30·64	30·43	+0·21	−22 52 11·2	11·3	+0·1	II. N.	...	3	+0·8
20 22 22 44·6	P	18 26 20·02	19·87	+0·15	−22 52 16·5	16·4	−0·1	II. N.	...	2,1	−0·3

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension.		O—C.	Declination.		O—C.	Limbs.	Definition.	Remarks.	Day Corr.
		Observed.	Comp.		Observed.	Comp.					
1885. d h m s		h m s	s	s	° ′ ″	″	″				″
Jan. 28 22 34 22·3	C	19 9 32·07	31·96	+0·11	−22 24 50·3	50·4	+0·1	II. N.	...	2	+0·4
30 22 37 13·0	M	19 20 16·36	16·37	−0·01	−22 11 6·9	6·5	−0·4	II. N.	3–4	*d* 2	−0·4
Feb. 1 22 40 1·8	P	19 30 58·68	58·50	+0·18	...	...	...	II.	...	1	...
Dec. 1 3 14 46·0	M	19 57 7·35	7·41	−0·06	−23 29 35·6	33·7	−1·9	I. S.	3–4	*u* 4	−0·4
4 3 16 16·7	P	20 10 27·91	28·21	−0·30	−22 44 59·7	58·9	−0·8	I. S.	...	5,4	+0·9
7 3 17 25·5	M	20 23 26·58	26·78	−0·20	−21 55 57·2	57·3	+0·1	I. S.	3–4	1	−1·4
8 3 17 43·5	P	20 27 41·16	41·07	+0·09	−21 38 42·5	41·6	−0·9	I. S.	...	2,3	+0·7
14 3 18 29·9	M	20 52 7·10	7·27	−0·17	−19 46 29·0	28·6	−0·4	I. S.	3–4	3	+0·5
18 3 17 59·7	C	21 7 23·05	23·29	−0·24	−18 24 39·0	36·0	−3·0	I. S.	3–4	*d* 4	+0·9
23 3 16 5·7	M	21 25 11·50	11·58	−0·08	−16 36 11·7	11·2	−0·5	I. S.	...	5	0·0
28 3 12 38·1	M	21 41 26·14	26·26	−0·12	−14 43 3·4	3·9	+0·5	I. S.	...	4,2	0·0
30 3 10 46·8	C	21 47 27·64	27·75	−0·11	−13 57 0·1	0·4	+0·3	I. S.	...	3,4	+0·8
1886.											
Jan. 4 3 4 50·8	C	22 1 13·38	13·61	−0·23	−12 1 17·0	15·1	−1·9	I. S.	...	4	+1·9
5 3 3 25·5	M	22 3 44·44	44·47	−0·03	−11 38 10·2	10·1	−0·1	I. S.	3–4	1	−2·5
6 3 1 55·0	P	22 6 10·21	10·23	−0·02	−11 15 10·4	9·7	−0·7	I. S.	...	4,3	+2·1
12 2 50 56·1	P	22 18 48·90	48·80	+0·10	− 9 0 8·7	7·7	−1·0	I. S.	3–4	p 4	+1·9
13 2 48 45·3	M	22 20 34·32	34·27	+0·05	− 8 38 23·9	22·6	−1·3	I. S.	4–3	1	+0·4
15 2 44 4·2	P	22 23 45·54	45·52	+0·02	− 7 55 47·1	47·0	−0·1	I. S.	...	2	+2·1
19 2 33 17·9	P	22 28 43·72	43·56	+0·16	− 6 35 8·6	8·1	−0·5	I. S.	...	2	+1·6
21 2 27 9·1	C	22 30 26·97	27·07	−0·10	− 5 57 37·4	38·1	+0·7	I. S.	...	*f*,c 3	+1·0
27 2 5 24·5	C	22 32 18·16	18·08	+0·08	− 4 20 0·7	0·8	+0·1	I. S.	...	1	+1·9
Feb. 4 1 28 7·0	C	22 26 26·91	27·00	−0·09	− 2 56 33·9	34·5	+0·6	I. S.	3–4	2	−0·2
6 1 17 19·8	M	22 23 31·06	31·00	+0·06	− 2 46 7·5	7·6	+0·1	I. S.	...	2	+0·6
8 1 6 1·0	C	22 20 3·56	3·40	+0·16	− 2 40 18·4	18·2	−0·2	I. S.	...	3,2	+0·7
10 0 54 14·2	P	22 16 7·89	7·80	+0·09	− 2 39 13·2	12·1	−1·1	I. S.	...	3,2	+1·8
21 23 39 15·5	P	21 48 15·49	15·18	+0·31	− 4 1 57·1	57·2	+0·1	II. S.	4–3	3	+0·7
22 23 33 10·0	C	21 46 5·55	4·89	+0·66	− 4 13 57·6	57·5	−0·1	II. S.	3–4	*u* 2	−0·2
25 23 15 28·2	P	21 40 10·58	10·33	+0·25	− 4 52 7·4	7·1	−0·3	II. S.	3–4	*t* 2	+0·3
26 23 9 48·7	M	21 38 26·64	26·43	+0·21	− 5 5 18·5	16·3	−2·2	II. S.	...	*f*,c 3	−0·8
28 22 58 54·4	C	21 35 23·69	23·31	+0·38	− 5 31 45·4	43·8	−1·6	II. S.	...	3	+0·4
Mar. 2 22 48 35·0	P	21 32 55·72	55·57	+0·15	− 5 57 54·9	54·4	−0·5	II. S.	3–4	*t* 2	+0·6
9 22 17 27·8	F	21 29 19·22	19·05	+0·17	− 7 20 20·5	20·6	+0·1	II. N.	...	7	+0·4
10 22 13 39·4	C	21 29 26·72	26·54	+0·18	− 7 30 18·9	20·7	+1·8	II. N.	3	4	−0·1
15 21 56 52·8	P	21 32 20·18	20·02	+0·16	− 8 11 43·0	43·6	+0·6	II. N.	1–2	5	+0·8
16 21 53 57·3	C	21 33 20·73	20·47	+0·26	− 8 18 7·9	9·0	+1·1	II. N.	2	c 4	+0·1
17 21 51 9·7	F	21 34 29·18	28·96	+0·22	− 8 23 55·4	55·5	+0·1	II. N.	...	6	+0·1
18 21 48 29·9	M	21 35 45·50	45·28	+0·22	− 8 29 1·4	2·7	+1·3	II. N.	3–2	1	−2·6
19 21 45 57·7	C	21 37 9·50	9·15	+0·35	− 8 33 29·1	29·8	+0·7	II. N.	2	2	+0·2
21 21 41 14·6	C	21 40 18·71	18·54	+0·17	− 8 40 22·9	23·3	+0·4	II. N.	2–3	3	−0·4
22 21 39 3·4	P	21 42 3·74	3·54	+0·20	− 8 42 50·1	49·3	−0·8	II. N.	2–3	5	+1·1
23 21 36 58·8	F	21 43 55·30	55·06	+0·24	− 8 44 34·1	34·9	+0·8	II. N.	3–4	*u* 5	+0·7
24 21 35 0·3	M	21 45 53·03	52·82	+0·21	− 8 45 39·9	40·1	+0·2	II. N.	2	7,6	−0·7
25 21 33 7·8	C	21 47 56·80	56·56	+0·24	− 8 46 5·1	4·9	−0·2	II. N.	3	5	0·0
28 21 28 3·6	M	21 54 41·37	41·22	+0·15	− 8 43 20·2	20·1	−0·1	II. N.	3	5	+0·4

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension.		O—C.	Declination.		O—C.	Limbs.	Definition.	Remarks.	Day Corr.
		Observed.	Comp.		Observed.	Comp.					
1886. d h m s		h m s	s	s	° ′ ″	″	″				″
Mar. 30 21 25 6·1	P	21 59 36·54	36·38	+0·16	− 8 38 14·5	13·9	−0·6	II. N.	...	c 2	+0·1
31 21 23 44·2	M	22 2 10·96	10·86	+0·10	− 8 34 42·2	43·0	+0·8	II. N.	3–2	4,3	+0·7
Apr. 1 21 22 26·7	F	22 4 49·83	49·69	+0·14	− 8 30 35·4	34·5	−0·9	II. N.	3	2	+0·3
4 21 18 58·1	F	22 13 10·22	10·04	+0·18	− 8 14 25·6	26·1	+0·5	II. N.	3–4	U 5,2	+1·4
5 21 17 55·8	M	22 16 4·45	4·17	+0·28	− 8 7 51·0	50·8	−0·2	II. N.	4–3	c 2	−0·2
6 21 16 56·9	C	22 19 1·85	1·65	+0·20	− 8 0 41·3	40·1	−1·2	II. N.	2–3	5	+0·7
8 21 15 8·5	M	22 25 6·21	6·07	+0·14	− 7 44 35·1	35·1	0·0	II. N.	3–2	4	−0·4
11 21 12 47·1	M	22 34 34·17	34·06	+0·11	− 7 16 17·4	16·7	−0·7	II. N.	1	3	+0·9
13 21 11 25·6	P	22 41 5·55	5·43	+0·12	− 6 54 45·3	44·1	−1·2	II. N.	...	5	+0·6
14 21 10 48·4	C	22 44 24·75	24·59	+0·16	− 6 43 11·2	11·5	+0·3	II. N.	3–4	3	+0·7
15 21 10 13·3	M	22 47 46·08	45·93	+0·15	− 6 31 9·9	8·6	−1·3	II. N.	3	T 2	−0·6
18 21 8 39·9	P	22 58 2·08	1·97	+0·11	− 5 52 6·9	5·5	−1·4	II. N.	1	4	+0·4
19 21 8 12·6	M	23 1 31·28	31·07	+0·21	− 5 38 9·6	8·4	−1·2	II. N.	2–3	1	−1·2
20 21 7 46·8	C	23 5 2·00	1·88	+0·12	− 5 23 44·2	44·3	+0·1	II. N.	3–2	c 5	+0·6
23 21 6 39·4	M	23 15 44·03	43·89	+0·14	− 4 37 58·1	56·9	−1·2	II. N.	3	5,4	+0·3
25 21 6 1·4	F	...	...	...	− 4 5 23·9	23·4	−0·5	N.	2	2	+0·2
26 21 5 44·7	C	23 26 38·91	38·79	+0·12	− 3 48 32·9	32·1	−0·8	II. N.	2	5	+0·1
27 21 5 28·9	M	23 30 19·63	19·65	−0·02	− 3 31 19·3	18·8	−0·5	II. N.	2	...	...
29 21 5 1·3	M	23 37 45·02	44·89	+0·13	− 2 55 48·2	49·1	+0·9	II. N.	3–4	5,4	+0·2
May 9 21 3 42·4	C	0 15 51·44	51·24	+0·20	+ 0 19 32·0	33·6	−1·6	II. N.	3	c 5	+0·4
10 21 3 38·8	M	0 19 44·35	44·71	−0·36	+ 0 40 26·3	26·9	−0·6	II. N.	1	c 1,0	...
11 21 3 36·9	F	0 23 39·04	39·00	+0·04	+ 1 1 31·3	32·2	−0·9	II. N.	2–3	3	+0·4
12 21 3 35·5	P	0 27 34·19	34·11	+0·08	+ 1 22 48·8	48·6	+0·2	II. N.	3	5,4	+0·6
13 21 3 34·7	C	0 31 29·95	30·03	−0·08	+ 1 44 15·9	15·7	+0·2	II. N.	3–4	4	+0·1
16 21 3 37·9	C	0 43 22·80	22·69	+0·11	+ 2 49 32·2	33·1	−0·9	II. N.	2	2	+0·3
17 21 3 40·6	M	0 47 22·03	21·89	+0·14	+ 3 11 34·5	35·4	−0·9	N.	1–2	3,2	+1·0
19 21 3 48·4	P	0 55 22·97	22·78	+0·19	+ 3 55 58·7	60·6	−1·9	II. N.	4	1	−0·2
20 21 3 53·4	F	0 59 24·58	24·47	+0·11	+ 4 18 20·9	21·9	−1·0	II. N.	2–3	4,2	+0·6
21 21 3 59·2	M	1 3 26·92	27·00	−0·08	+ 4 40 47·0	48·3	−1·3	II. N.	2	2,1	+0·2
24 21 4 22·2	M	1 15 39·75	39·72	+0·03	+ 5 48 30·6	29·7	+0·9	II. N.	3–4	2,1	+0·8
28 21 5 5·1	M	1 32 8·91	8·83	+0·08	+ 7 19 8·5	9·8	−1·3	II. N.	1–2	3	−0·1
June 7 21 7 56·3	M	2 14 26·12	26·16	−0·04	+11 3 5·2	5·1	+0·1	II. N.	3	3,2	+0·2
8 21 8 18·8	C	2 18 45·24	45·27	−0·03	+11 24 55·9	55·4	+0·5	II. N.	3	3,4	+0·1
9 21 8 42·2	M	2 23 5·27	5·42	−0·15	+11 46 36·1	36·9	−0·8	II. N.	3	2	+0·9
10 21 9 6·8	C	2 27 26·48	26·63	−0·15	+12 8 8·8	8·8	0·0	II. N.	3	1	−0·6
14 21 10 56·2	P	2 45 2·46	2·47	−0·01	+13 32 25·4	26·6	−1·2	II. N.	2	3,4	+1·3
15 21 11 26·4	M	2 49 29·38	29·26	+0·12	+13 53 0·5	0·0	+0·5	II. N.	3–4	d 2	−0·6
16 21 11 57·7	F	2 53 57·24	57·20	+0·04	+14 13 20·1	19·7	+0·4	II. N.	3–4	6	+0·9
17 21 12 30·1	M	2 58 26·29	26·33	−0·04	+14 33 25·0	24·7	+0·3	II. N.	2	3	+0·4
21 21 14 51·8	M	3 16 34·59	34·81	−0·22	+15 51 4·7	5·2	−0·5	II. N.	2	2	+0·1
22 21 15 30·4	C	3 21 9·87	9·81	+0·06	+16 9 45·8	46·7	−0·9	II. N.	2–3	5,4	+0·5
23 21 16 10·1	P	3 25 46·17	46·14	+0·03	+16 28 8·6	9·3	−0·7	II. N.	2–3	2	+1·3
July 4 21 24 45·8	M	4 17 45·45	45·51	−0·06	+19 26 13·4	13·4	0·0	II. N.	3	6	+0·3
5 21 25 39·9	C	4 22 36·21	36·12	+0·09	+19 39 56·1	55·4	+0·7	II. N.	3–4	4	+0·5
6 21 26 34·8	F	4 27 27·83	27·83	0·00	+19 53 10·5	9·7	+0·8	II. N.	3–4	5,4	0·0
7 21 27 30·9	C	4 32 20·66	20·65	+0·01	+20 5 56·0	55·7	+0·3	II. N.	3	2	+0·7
8 21 28 28·0	M	4 37 14·51	14·57	−0·06	+20 18 13·5	12·8	+0·7	II. N.	3–4	7,8	+0·2

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1886. d h m s		h m s	s	s	° ′ ″	″	″				″
July 9 21 29 26·4	P	4 42 9·58	9·55	+0·03	+20 30 0·4	0·4	0·0	II. N.	3-4	4	+1·3
11 21 31 25·9	C	4 52 2·51	2·65	−0·14	+20 52 5·5	4·7	+0·8	II. N.	3-4	3	+0·8
12 21 32 27·5	M	4 57 0·87	0·71	+0·16	+21 2 21·3	20·4	+0·9	II. N.	3-4	5,6	+0·4
13 21 33 29·7	M	5 1 59·86	59·76	+0·10	+21 12 5·5	4·4	+1·1	II. N.	3	4,3	+0·5
14 21 34 32·9	P	5 6 59·77	59·77	0·00	+21 21 16·1	16·2	−0·1	II. N.	...	3	+0·9
16 21 36 42·2	F	5 17 2·52	2·52	0·00	+21 38 3·2	1·1	+2·1	II. N.	3-2	5	+0·1
20 21 41 10·7	M	5 37 17·95	18·02	−0·07	+22 4 41·6	43·5	−1·9	II. N.	3-4	*d*,c 3	−0·1
21 21 42 19·6	C	5 42 23·53	23·77	−0·24	+22 9 57·8	56·6	+1·2	II. N.	3-4	4	+0·7
26 21 48 13·7	M	6 8 1·47	1·60	−0·13	+22 26 59·3	60·6	−1·3	II. S.	3	3	+0·7
28 21 50 38·7	M	6 18 19·95	20·09	−0·14	+22 29 32·5	32·0	+0·5	II. S.	3	4	+1·1
29 21 51 51·8	F	6 23 29·83	29·85	−0·02	+22 29 51·8	51·5	+0·3	II. S.	...	2	+1·3
30 21 53 5·0	C	6 28 39·77	39·87	−0·10	+22 29 31·8	33·3	−1·5	II. N.	3-4	5,6	+0·7
Aug. 3 21 57 59·7	P	6 49 21·51	21·59	−0·08	+22 22 2·4	1·3	+1·1	II. S.	3-4	2,3	−0·1
9 22 5 21·1	C	7 20 23·44	23·62	−0·18	+21 51 43·0	41·8	+1·2	II. S.	3-4	3	+0·2
10 22 6 34·2	M	7 25 33·25	33·30	−0·05	+21 44 25·9	26·1	−0·2	II. S.	4-3	2,3	−0·2
11 22 7 46·9	C	7 30 42·72	42·66	+0·06	+21 36 33·8	33·0	+0·8	II. S.	3-4	2	+0·8
12 22 8 59·1	F	7 35 51·67	51·69	−0·02	+21 28 3·0	2·6	+0·4	II. S.	4-3	2	+0·1
16 22 13 43·9	C	7 56 23·44	23·46	−0·02	+20 47 52·7	52·5	+0·2	II. S.	2	1	−0·8
18 22 16 3·4	C	8 6 36·42	36·28	+0·14	+20 24 9·1	10·3	−1·2	II. S.	3-4	5	+0·1
19 22 17 12·0	M	8 11 41·81	41·80	+0·01	+20 11 26·0	26·0	0·0	II. S.	3-4	*d*,c 5	+0·4
20 22 18 20·2	F	8 16 46·70	46·69	+0·01	+19 58 7·0	6·8	+0·2	II. S.	3-4	4,3	+0·4
31 22 30 1·0	C	9 11 51·58	51·59	−0·01	+16 55 19·8	19·8	0·0	II. S.	4-3	3,2	+0·7
Sept. 3 22 32 54·7	M	9 26 35·36	35·42	−0·06	+15 54 50·7	50·7	0·0	II. S.	3	3,2	−0·4
7 22 36 34·1	P	9 46 1·55	1·65	−0·10	+14 27 53·3	55·5	−2·2	II. S.	...	4	+0·7
9 22 28 18·7	M	9 55 39·61	39·61	0·00	+13 41 57·5	57·8	−0·3	II. S.	3-4	6,5	−0·2
15 22 43 12·9	P	...	...	...	+11 15 7·3	6·9	+0·4	S.	...	...	...
19 22 46 14·8	P	10 43 2·52	2·51	+0·01	+ 9 30 38·7	38·4	+0·3	II. S.	3-4	3	+0·7
20 22 46 58·6	M	10 47 42·99	43·00	−0·01	+ 9 3 47·3	48·3	−1·0	II. S.	3-4	5	+0·4
21 22 47 41·9	C	10 52 22·93	22·91	+0·02	+ 8 36 40·6	42·4	−1·8	II. S.	4-3	2,1	+1·8
24 22 49 48·2	M	11 6 19·23	19·30	−0·07	+ 7 13 57·1	57·0	+0·1	II. S.	3-2	2	−0·1
26 22 51 10·0	M	11 15 34·41	34·43	−0·02	+ 6 17 39·6	41·0	−1·4	II. S.	3-4	6,5	+0·5
27 22 51 50·4	P	11 20 11·42	11·34	+0·08	+ 5 49 14·6	15·4	−0·8	II. S.	3-4	3	+1·5
28 22 52 30·2	M	11 24 47·88	47·86	+0·02	+ 5 20 37·4	39·2	−1·8	II. S.	3-4	3	+1·6
29 22 53 9·6	C	11 29 23·99	24·01	−0·02	+ 4 51 52·8	52·8	0·0	II. S.	4-3	2	+1·2
Oct. 3 22 55 44·8	C	11 47 45·79	45·72	+0·07	+ 2 55 19·2	22·0	−2·8	II. S.	3	1	+1·0
4 22 56 22·9	P	11 52 20·56	20·60	−0·04	+ 2 25 56·3	56·6	−0·3	II. S.	4-3	3	+1·1
5 22 57 1·0	C	11 56 55·27	55·32	−0·05	+ 1 56 24·4	25·6	−1·2	II. S.	3-4	2	0·0
6 22 57 38·8	M	12 1 29·77	29·95	−0·18	+ 1 26 49·2	49·7	−0·5	II. S.	3-4	1	+0·8
10 23 0 10·7	M	12 19 48·31	48·16	+0·15	− 0 32 10·0	8·2	−1·8	II. S.	4-3	2,1	+2·4
11 23 0 48·8	C	12 24 23·07	22·87	+0·20	− 1 1 58·2	57·6	−0·6	II. S.	...	1	+1·4
19 23 6 1·7	C	13 1 9·22	9·08	+0·14	− 4 59 51·4	49·6	−1·8	II. S.	3-4	2	+0·5
21 23 7 23·7	C	13 10 24·60	24·54	+0·06	− 5 58 39·4	38·0	−1·4	II. S.	3	4,3	+0·7
22 23 8 5·6	M	13 15 3·16	3·06	+0·10	− 6 27 54·3	52·0	−2·3	II. S.	3-4	*d*,c 3,2	+0·1
26 23 10 59·3	M	13 33 43·48	43·37	+0·11	− 8 23 23·9	22·2	−1·7	II. S.	3-4	c 2,1	+1·1
Nov. 5 23 19 8·2	M	14 21 19·26	19·40	−0·14	−12 57 30·1	28·5	−1·6	II. S.	3-4	4,3	−0·1
7 23 20 57·5	M	14 31 1·96	2·06	−0·10	−13 48 57·4	55·6	−1·8	II. S.	3-4	*p* 3	+1·4

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension.		O—C.	Declination.		O—C.	Limbs.	Definition.	Remarks.	Day Corr.
		Observed.	Comp.		Observed.	Comp.					
1886. d h m s		h m s	s	s	° ′ ″	″	″				″
Nov. 8 23 21 54·0	C	14 35 55·20	55·01	+0·19	−14 14 9·8	8·8	−1·0	II. N.	3-4	4	+0·6
11 23 24 49·3	M	14 50 40·61	40·62	−0·01	−15 27 37·5	36·4	−1·1	II. S.	3-4	4,3	−0·3
Dec. 17 0 11 19·2	M	17 55 17·69	17·76	−0·07	−23 53 34·3	33·0	−1·3	II. S.	3-4	*p* 2,1	+0·8
24 0 22 17·2	C	18 33 53·33	53·42	−0·09	−23 55 42·2	41·4	−0·8	I. N.	3-4	4,3	+0·2
1887.											
Jan. 6 0 41 55·0	M	19 44 49·66	49·72	−0·06	−22 23 55·1	58·4	+3·3	I. S.	4-3	6,5	+0·8
7 0 43 20·2	C	19 50 11·59	11·82	−0·23	−22 11 59·0	58·3	−0·7	I. N.	4-3	3	−0·7
8 0 44 44·8	P	19 55 32·96	32·91	+0·05	−21 59 18·4	18·0	−0·4	I. S.	4-3	2,1	+0·1
11 0 48 51·2	C	20 11 29·77	29·78	−0·01	−21 17 22·8	21·2	−1·6	I. S.	3-4	2,1	+0·4
12 0 50 11·2	F	20 16 46·50	46·53	−0·03	−21 2 6·0	5·3	−0·7	I. N.	3	3,2	+2·0
15 0 54 4·0	C	20 32 29·61	29·62	−0·01	−20 12 38·0	36·1	−1·9	I. S.	4-3	2	−0·3
19 0 58 57·2	C	20 53 9·82	9·90	−0·08	−18 58 27·7	23·5	−4·2	I. S.	3-4	2,1	−0·4
27 1 7 42·2	P	21 33 28·74	28·89	−0·15	−16 4 40·2	38·7	−1·5	I. S.	3-4	1	−0·8
31 1 11 34·1	F	21 53 7·51	7·54	−0·03	−14 26 43·2	43·8	+0·6	II. N.	4-3	3	−0·2
Feb. 1 1 12 28·8	C	21 57 58·89	59·11	−0·22	−14 1 16·1	14·5	−1·6	I. S.	3-4	3	+0·8
3 1 14 15·1	C	22 7 38·60	38·67	−0·07	−13 9 10·7	9·0	−1·7	I. S.	4-3	2	+0·5
4 1 15 6·4	P	22 12 26·59	26·70	−0·11	−12 42 36·6	34·1	−2·5	I. S.	3-4	2	+0·9
7 1 17 33·7	M	22 26 43·96	44·09	−0·13	−11 20 52·4	51·7	−0·7	II. S.	4-3	3	+0·9
8 1 18 20·5	P	22 31 27·47	27·74	−0·27	−10 53 3·4	0·6	−2·8	I. S.	3-4	3	+0·2
9 1 19 6·8	M	22 36 10·44	10·37	+0·07	−10 24 54·8	52·5	−2·3	I. S.	3-4	4	+0·1
15 1 23 23·2	C	23 4 6·87	6·95	−0·08	− 7 30 48·3	46·9	−1·4	I. S.	3-4	3	−0·2
17 1 24 42·3	F	23 13 19·28	19·37	−0·09	− 6 31 3·3	2·6	−0·7	I. S.	3-4	2,0	...
19 1 25 58·5	C	23 22 28·79	29·06	−0·27	− 5 30 40·7	37·3	−3·4	I. S.	4-3	3,2	+0·3
25 1 29 34·5	C	23 49 44·66	44·94	−0·28	− 2 26 18·7	16·9	−1·8	I. S.	3-4	4	+0·2
26 1 30 9·0	F	23 54 15·86	16·07	−0·21	− 1 55 16·0	14·6	−1·4	I. S.	4-3	4,1	−0·6
28 1 31 17·4	M	0 3 17·54	17·41	+0·13	− 0 52 59·2	60·3	+1·1	I. S.	3-4	*d* 4,3	+0·5
Mar. 3 1 32 57·5	F	0 16 47·52	47·69	−0·17	+ 0 40 32·6	33·7	−1·1	I. S.	3-4	3,1	+0·5
7 1 35 9·8	P	0 34 46·45	46·62	−0·17	+ 2 45 9·5	11·0	−1·5	I. S.	4-3	3,2	+0·7
8 1 35 43·0	M	...	...	...	+ 3 16 13·0	14·0	−1·0	S.	3	*d*	...
9 1 36 15·9	C	0 43 45·81	46·18	−0·37	+ 3 47 11·5	13·0	−1·5	I. S.	4-3	3	+0·2
10 1 36 49·5	M	0 48 16·13	16·14	−0·01	+ 4 18 4·9	7·1	−2·2	I. S.	4-3	*d* 2	+0·2
11 1 37 22·8	C	0 52 45·99	46·29	−0·30	+ 4 48 54·1	55·9	−1·8	I. S.	4-3	2,1	+0·4
16 1 40 14·9	M	...	...	..	+ 7 21 13·2	13·1	+0·1	S.	3	5	−0·1
22 1 43 55·6	M	1 42 41·91	41·95	−0·04	+10 18 24·9	26·9	−2·0	I. S.	3-4	3	+0·5
23 1 44 34·4	M	1 47 17·36	17·44	−0·08	+10 47 15·9	13·7	+2·2	I. S.	4-3	3,2	+1·6
26 1 46 34·9	F	2 1 7·87	8·10	−0·23	+12 12 0·9	1·4	−0·5	I. S.	3	4	+0·8
28 1 47 59·1	M	2 10 25·42	25·63	−0·21	+13 7 6·4	8·5	−2·1	I. S.	3	2	−0·8
30 1 49 26·5	P	2 19 46·14	46·43	−0·29	+14 0 58·3	60·5	−2·2	I. S.	...	3,2	+1·2
Apr. 4 1 53 19·9	C	2 43 23·36	23·68	−0·32	+16 9 30·9	34·3	−3·4	I. S.	2-3	2	+1·3
5 1 54 10·1	M	2 48 9·89	9·89	0·00	+16 34 4·7	8·2	−3·5	I. S.	3-4	4	+0·5
9 1 57 37·7	P	3 7 24·27	24·34	−0·07	+18 8 7·4	9·6	−2·2	I. S.	...	3,2	+0·4
12 2 0 23·6	P	3 22 0·29	0·63	−0·34	+19 13 54·7	54·4	+0·3	I. S.	4-3	3	+0·6
14 2 2 19·6	C	3 31 49·70	49·84	−0·14	+19 55 16·5	17·8	−1·3	I. S.	3	3	+0·4
20 2 8 30·4	C	4 1 40·78	41·04	−0·26	+21 46 44·5	46·0	−1·5	I. S.	2-3	c 3	+0·4
22 2 10 41·6	C	4 11 45·49	45·52	−0·03	+22 19 22·6	24·6	−2·0	I. S.	3	4,3	+1·0
25 2 14 4·4	M	4 26 58·48	58·50	−0·02	+23 3 52·5	52·7	−0·2	I. S.	3	4	+0·5

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1887. d h m s		h m s	s	s	° ′ ″	″	″				″
Apr. 28 2 17 33·6	F	4 42 17·96	18·10	−0·14	+23 42 44·2	44·5	−0·3	I. S.	3	4,3	+1·1
29 2 18 44·7	M	4 47 25·78	25·90	−0·12	+23 54 23·3	24·8	−1·5	I. S.	3–4	*d* 4	+0·5
30 2 19 56·0	C	4 52 33·83	34·25	−0·42	+24 5 25·3	26·0	−0·7	I. S.	3–4	4,1	+0·9
May 10 2 32 10·3	C	5 44 15·63	15·92	−0·29	+25 18 24·8	27·0	−2·2	I. S.	3–4	4,3	−0·3
11 2 33 24·4	M	5 49 26·54	26·62	−0·08	+25 21 54·9	57·0	−2·1	I. S.	3–4	6	+0·8
12 2 34 38·0	C	5 54 36·91	37·18	−0·27	+25 24 44·6	45·0	−0·4	I. S.	2–3	5	+0·2
13 2 35 51·8	M	5 59 47·41	47·52	−0·11	+25 26 49·3	51·0	−1·7	I. S.	3–4	5	+0·7
16 2 39 30·5	F	6 15 16·40	16·60	−0·20	+25 28 57·2	56·8	+0·4	I. N.	3	5,4	+0·1
20 2 44 15·3	C	6 35 48·25	48·36	−0·11	+25 21 59·5	59·4	+0·1	I. S.	2	4,3	+0·8
25 2 49 54·3	M	7 1 10·91	10·76	+0·15	+24 57 56·1	54·2	+1·9	I. N.	2	6,5	+0·1
27 2 52 2·4	M	7 11 12·53	12·59	−0·06	+24 43 37·4	36·4	+1·0	I. N.	2–3	5	0·0
31 2 56 4·3	M	7 31 1·29	1·28	+0·01	+24 7 20·2	18·9	+1·3	I. N.	...	6,4	+1·2
June 3 2 58 50·5	C	7 45 37·64	37·87	−0·23	+23 33 37·3	36·8	+0·5	I. N.	2	6	−0·4
4 2 59 43·0	P	7 50 26·80	26·96	−0·16	+23 21 11·5	11·4	+0·1	I. N.	2–3	4	+0·7
6 3 1 23·0	M	8 0 0·23	0·21	+0·02	+22 54 38·9	37·4	+1·5	I. N.	...	6,5	+0·2
7 3 2 10·3	C	8 4 44·18	44·31	−0·13	+22 40 31·1	30·0	+1·1	I. N.	3	5,4	+0·3
8 3 2 56·0	M	8 9 26·59	26·67	−0·08	+22 25 53·6	49·7	+3·9	I. N.	3	5,4	+0·1
9 3 3 40·0	C	8 14 7·21	7·27	−0·06	+22 10 37·8	37·3	+0·5	I. N.	2–3	4	−0·1
10 3 4 22·1	P	8 18 45·98	46·07	−0·09	+21 54 53·3	53·3	0·0	I. N.	...	5,4	+1·8
13 3 6 17·4	C	8 32 31·29	31·42	−0·13	+21 4 39·7	39·3	+0·4	I. N.	2–3	4,5	+0·1
14 3 6 52·2	M	8 37 2·78	2·78	0·00	+20 46 56·6	56·1	+0·5	I. N.	2–3	5	+0·1
16 3 7 55·9	F	8 45 59·77	59·72	+0·05	+20 10 6·8	6·2	+0·6	I. N.	2–3	4,5	−0·2
17 3 8 24·5	C	8 50 24·96	25·27	−0·31	+19 51 1·4	1·0	+0·4	I. N.	...	5	0·0
18 3 8 51·7	M	8 54 48·82	48·84	−0·02	+19 31 29·5	29·8	−0·3	I. N.	2	4,5	+1·0
20 3 9 39·7	C	9 3 30·00	30·01	−0·01	...	...	...	I.	2	2	...
22 3 10 19·5	M	...	...	...	+18 9 23·5	20·7	+2·8	N.	...	5	+0·7
27 3 11 22·7	F	9 32 49·25	49·30	−0·05	+16 18 25·5	26·5	−1·0	I. N.	2–1	3	+0·7
29 3 11 33·1	M	9 40 52·81	52·85	−0·04	+15 31 51·2	51·2	0·0	I. N.	2–3	6,7	0·0
30 3 11 35·0	C	9 44 51·22	51·38	−0·16	+15 8 6·5	8·0	−1·5	I. N.	...	6,5	0·0
July 4 3 11 20·8	P	10 0 23·25	23·43	−0·18	+13 30 41·4	42·9	−1·5	I. N.	...	5,4	+1·4
5 3 11 12·0	M	10 4 10·92	10·89	+0·03	+13 5 47·1	47·4	−0·3	I. N.	2	6	+0·7
18 3 5 45·0	C	10 49 58·33	58·47	−0·14	+ 7 27 49·4	49·9	−0·5	I. N.	2–3	3,2	+0·5
19 3 5 3·3	P	10 53 13·07	13·06	+0·01	+ 7 1 11·8	12·3	−0·5	I. N.	2	4	+0·6
21 3 3 31·8	M	10 59 34·44	34·55	−0·11	+ 6 7 52·3	53·2	−0·9	I. N.	2	4	0·0
25 2 59 57·1	M	11 11 45·32	45·34	−0·02	+ 4 21 22·0	23·1	−1·1	I. N.	1–2	6	+0·6
26 2 58 56·2	C	11 14 40·78	40·97	−0·19	+ 3 54 52·0	52·3	−0·3	I. N.	2	4	+0·4
Aug. 1 2 51 46·9	F	11 31 9·72	9·80	−0·08	+ 1 17 53·8	54·6	−0·8	I. N.	2–3	5,4	+0·2
2 2 50 23·8	M	11 33 42·93	42·98	−0·05	+ 0 52 14·6	15·0	−0·4	I. N.	2–3	1	−0·9
3 2 48 56·9	C	11 36 12·36	12·58	−0·22	+ 0 26 46·2	46·8	−0·6	I. N.	2–3	5,6	+0·8
6 2 44 14·5	P	11 43 18·77	18·83	−0·06	− 0 48 20·6	19·5	−1·1	I. N.	3–2	5	+0·4
8 2 40 46·4	M	11 47 43·22	43·16	+0·06	− 1 37 9·8	7·3	−2·5	I. N.	2–3	6,7	+0·6
10 2 37 1·0	M	11 51 50·37	50·35	+0·02	− 2 24 45·3	43·3	−2·0	I. N.	2–3	5,6	+0·6
15 2 26 15·2	C	12 0 45·52	45·94	−0·42	− 4 17 21·1	19·9	−1·2	I. N.	3–2	6	0·0
19 2 16 3·5	C	12 6 18·35	18·53	−0·18	− 5 39 12·6	11·5	−1·1	I. N.	1–2	2,0	...
20 2 13 15·7	F	12 7 26·70	26·78	−0·08	− 5 58 17·5	16·4	−1·1	I. N.	3–2	3,1	−0·1
22 2 7 20·7	M	12 9 23·85	23·92	−0·07	− 6 34 32·9	32·7	−0·2	I. N.	...	4,3	+0·6
23 2 4 13·1	C	12 10 12·28	12·40	−0·12	− 6 51 40·4	39·6	−0·8	I. N.	2	5	+0·4

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1887. d h m s		h m s	s	s	° ′ ″	″	″				″
Sept. 1 1 30 28·3	F	12 11 50·91	50·83	+0·08	− 8 47 40·6	39·1	−1·5	I. N.	3	3,2	−0·2
2 1 26 3·0	C	12 11 21·37	21·57	−0·20	− 8 55 29·9	29·9	0·0	I. N.	3	3,2	+0·3
5 1 11 58·8	M	12 9 4·55	4·10	+0·45	− 9 11 51·6	49·6	−2·0	I. N.	2–3	4	+0·2
6 1 7 0·7	F	12 8 2·21	2·00	+0·21	− 9 14 44·8	44·0	−0·8	I. N.	2–3	5	−0·3
7 1 1 53·1	C	12 6 52·07	52·01	+0·06	− 9 16 18·5	18·6	+0·1	I. N.	2–3	4,3	−0·9
14 0 23 1·8	F	11 55 28·45	28·18	+0·27	− 8 48 36·5	35·7	−0·8	I. N.	3	3	0·0
17 0 5 5·4	F	11 49 18·76	18·51	+0·25	− 8 16 9·5	8·8	−0·7	I. N.		3,2	0·0
19 23 46 49·5	C	11 42 49·55	49·19	+0·36	...	...	...	II.		4,3	−0·4
20 23 40 43·4	M	11 40 39·03	38·78	+0·25	− 7 16 18·8	16·4	−2·4	II. N.	2–3	5	+0·6
21 23 34 38·7	F	11 38 29·84	29·46	+0·38	− 6 58 51·8	51·1	−0·7	II. N.	3–4	3,1	+1·0
22 23 28 35·8	M	11 36 22·54	22·06	+0·48	− 6 40 37·0	38·8	+1·8	II. N.	2–3	5	+1·0
23 23 22 36·0	C	11 34 18·25	17·43	+0·82	− 6 21 45·6	45·9	+0·3	II. N.	3	2	−0·5
26 23 4 59·4	F	11 28 28·44	27·92	+0·52	− 5 22 16·0	14·9	−1·1	II. N.	3–2	4,3	+0·1
27 22 59 17·7	M	11 26 42·36	42·01	+0·35	− 5 1 50·6	50·9	+0·3	II. N.	3–4	*u* 4	+0·7
30 22 42 53·4	M	11 22 5·01	4·68	+0·33	− 4 0 40·0	39·0	−1·0	II. N.	3–4	*u* 2	+0·6
Oct. 4 22 22 52·2	M	11 17 46·71	46·32	+0·39	− 2 43 6·8	2·4	−4·4	II. S.	2–3	F 2	+0·8
9 22 1 11·3	C	11 15 45·07	44·48	+0·59	− 1 20 7·2	4·6	−2·6	II. S.	3–4	4,3	+0·3
11 21 53 34·8	C	11 15 60·39	59·54	+0·85	− 0 52 45·8	43·3	−2·5	II. S.	3	4	−0·1
12 21 49 59·2	M	11 16 20·77	20·37	+0·40	− 0 40 29·5	25·7	−3·8	II. S.	3–2	5	+0·5
13 21 46 33·1	C	11 16 50·66	49·87	+0·79	− 0 29 7·3	5·3	−2·0	II. S.	3–4	2	−1·5
16 21 37 2·9	M	11 19 8·60	8·24	+0·36	− 0 0 53·9	51·6	−2·3	II. S.	2	3	+0·7
19 21 28 43·5	C	11 22 37·48	36·83	+0·65	+ 0 18 36·3	38·3	−2·0	II. S.	3–4	5,4	−0·3
20 21 26 11·2	M	11 24 1·25	0·84	+0·41	+ 0 23 11·5	13·2	−1·7	II. S.	3	4	+1·5
24 21 17 8·7	M	11 30 43·51	43·28	+0·23	+ 0 32 12·7	14·3	−1·6	II. S.	2–3	4	+0·7
25 21 15 8·9	C	11 32 39·89	39·31	+0·58	+ 0 32 13·1	14·1	−1·0	II. S.	3–4	4,2	0·0
28 21 9 41·5	M	11 39 1·26	0·99	+0·27	+ 0 27 2·2	4·1	−1·9	II. S.	3–4	5	−0·2
31 21 5 0·8	C	11 46 9·45	8·71	+0·74	+ 0 14 30·8	32·2	−1·4	II. S.	3	4,3	−0·1
Nov. 2 21 2 16·0	C	11 51 17·39	16·90	+0·49	+ 0 2 21·4	21·0	+0·4	II. S.	3	5,4	−0·5
3 21 1 0·1	M	11 53 57·76	57·37	+0·39	− 0 4 53·5	50·1	−3·4	II. S.	3–4	6,4	+1·0
4 20 59 48·5	C	11 56 42·59	41·86	+0·73	− 0 12 43·7	42·9	−0·8	II. S.	3–4	4,3	−0·1
6 20 57 36·3	C	12 2 23·14	22·26	+0·88	− 0 30 29·9	29·7	−0·2	II. S.	3	4	−0·2
7 20 56 34·9	M	12 5 18·10	17·88	+0·22	− 0 40 23·7	21·2	−2·5	II. S.	3–4	*d* 4	+0·6
9 20 54 43·5	M	12 11 19·53	19·23	+0·30	− 1 1 54·3	53·7	−0·6	II. S.	3–4	2	+0·7
13 20 51 37·1	M	12 23 58·81	58·68	+0·13	− 1 51 42·0	42·3	+0·3	II. S.	2–3	4	−0·3
14 20 50 57·8	C	12 27 15·97	15·51	+0·46	− 2 5 25·8	26·4	+0·6	II. S.	3	4	−0·1
15 20 50 20·4	M	12 30 35·05	34·91	+0·14	− 2 19 40·3	38·5	−1·8	II. S.	4–3	6,5	+0·3
16 20 49 46·2	C	12 33 57·24	56·81	+0·43	− 2 34 19·2	18·0	−1·2	II. S.	3–4	f 3,2	+0·7
18 20 48 44·0	C	12 40 47·96	47·72	+0·24	− 3 4 53·9	53·7	−0·2	II. S.	2–3	3,2	−0·7
20 20 47 51·1	C	12 47 48·07	47·64	+0·43	− 3 37 3·8	3·9	+0·1	II. S.	3–4	3	+0·3
21 20 47 27·6	M	12 51 21·04	20·81	+0·23	− 3 53 43·6	41·8	−1·8	II. S.	3–4	3	+1·9
22 20 47 6·7	C	12 54 56·62	56·06	+0·56	− 4 10 41·8	40·3	−1·5	II. S.	3–4	3	+1·2
25 20 46 14·4	M	13 5 53·86	53·77	+0·09	− 5 3 28·4	26·9	−1·5	II. S.	3–4	*u* 4	+0·8
27 20 45 49·5	M	13 13 22·04	21·80	+0·24	− 5 40 2·0	0·9	−1·1	II. S.	2–3	4,3	+1·2
28 20 45 40·1	C	13 17 9·15	8·58	+0·57	− 5 58 40·3	39·7	−0·6	II. S.	3–4	2,1	−2·4
29 20 45 31·7	M	13 20 57·26	57·17	+0·09	− 6 17 31·0	31·8	+0·8	II. S.	3	3	+0·6
Dec. 1 20 45 20·9	M	13 28 39·61	39·59	+0·02	− 6 55 51·2	51·0	−0·2	II. S.	2–3	3,2	+0·9
6 20 45 24·3	C	13 48 25·79	25·43	+0·36	− 8 34 18·3	17·9	−0·4	II. S.	2–3	4,3	+0·5
7 20 45 29·5	M	...	...	...	− 8 54 20·7	18·5	−2·2	... S.	2–3	...	...

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension.		O—C.	Declination.		O—C.	Limbs.	Definition.	Remarks.	Day Corr.
		Observed.	Comp.		Observed.	Comp.					
1887. d h m s		h m s	s	s	° ′ ″	″	″				″
Dec. 9 20 45 45·4	M	14 0 36·59	36·49	+0·10	− 9 34 31·5	30·4	−1·1	II. S.	3	6,4	+1·1
11 20 46 7·4	M	14 8 51·82	51·73	+0·09	−10 14 50·3	50·4	+0·1	II. S.	2–3	4	+0·1
12 20 46 21·1	C	14 13 2·05	1·66	+0·39	−10 35 1·8	0·8	−1·0	II. S.	3–4	3	−0·5
13 20 46 35·9	M	14 17 13·47	13·11	+0·36	−10 55 11·5	10·3	−1·2	II. S.	3–4	2,0	...
14 20 46 52·2	C	14 21 26·34	26·07	+0·27	−11 15 17·9	17·7	−0·2	II. S.	3–4	*p* 3,1	+0·6
15 20 47 9·8	M	14 25 40·54	40·55	−0·01	−11 35 23·9	22·1	−1·8	II. S.	2–3	4,3	+0·5
20 20 49 1·8	C	14 47 15·69	15·23	+0·46	−13 14 26·4	26·1	−0·3	II. S.	3	5,4	0·0
21 20 49 28·3	M	14 51 38·76	38·62	+0·14	−13 33 53·3	52·6	−0·7	II. S.	3–4	1	+0·3
23 20 50 26·0	M	15 0 29·79	29·82	−0·03	−14 12 18·5	16·3	−2·2	II. S.	4–3	1	−0·6
27 20 52 39·6	M	15 18 30·01	30·05	−0·04	−15 26 41·1	40·4	−0·7	II. S.	3	2,1	−0·3
29 20 53 55·3	M	15 27 38·97	39·02	−0·05	−16 2 23·1	26·7	+3·6	II. S.	3	2	+0·2
1888.											
Jan. 3 20 57 30·0	C	15 50 57·12	56·96	+0·16	−17 26 48·8	47·0	−1·8	II. S.	3	4,3	+0·3
4 20 58 17·2	M	15 55 40·96	40·86	+0·10	−17 42 43·1	39·9	−3·2	II. S.	3–4	4,3	+0·5
5 20 59 6·1	C	16 0 26·52	26·15	+0·37	−17 58 13·0	11·0	−2·0	II. S.	3–4	5,4	+0·8
8 21 1 39·7	M	16 14 50·25	50·25	0·00	−18 42 27·5	25·9	−1·6	II. S.	3–4	3,2	+0·9
9 21 2 34·0	C	16 19 41·20	40·96	+0·24	−18 56 24·3	22·1	−2·2	II. S.	3	1	+0·5
12 21 5 23·3	M	16 34 20·66	20·65	+0·01	−19 35 35·7	33·6	−2·1	II. S.	2–3	4	+0·1
15 21 8 23·8	C	16 49 11·32	11·10	+0·22	−20 10 35·7	34·2	−1·5	II. S.	3–4	4,3	−0·4
16 21 9 25·9	M	16 54 10·16	10·17	−0·01	−20 21 17·4	15·4	−2·0	II. S.	3	3,4	+1·6
17 21 10 29·6	C	16 59 10·60	10·29	+0·31	−20 31 28·2	26·0	−2·2	II. S.	3	4,3	+0·5
18 21 11 33·7	M	17 4 11·44	11·45	−0·01	−20 41 6·9	5·5	−1·4	II. S.	3	1	+1·8
23 21 17 10·0	F	17 29 31·43	31·44	−0·01	−21 21 17·0	15·1	−1·9	II. S.	3	4,2	+1·0
25 21 19 30·6	C	17 39 45·51	45·31	+0·20	−21 33 24·5	22·1	−2·4	II. S.	3	2	+0·4
29 21 24 19·6	C	18 0 21·53	21·20	+0·33	−21 50 31·1	30·9	−0·2	II. N.	3–2	3,4	0·0
31 21 26 47·2	C	18 10 42·67	42·43	+0·24	−21 55 26·4	27·0	+0·6	II. N.	3	2	0·0
Feb. 1 21 28 1·5	M	18 15 53·73	53·70	+0·03	−21 56 60·9	59·3	−1·6	II. N.	3	2	+1·3
2 21 29 16·4	F	18 21 5·35	5·34	+0·01	−21 57 56·2	54·5	−1·7	II. S.	3–4	1,0	...
3 21 30 31·4	M	18 26 17·20	17·28	−0·08	−21 58 12·2	12·0	−0·2	II. N.	3–4	4	+0·2
7 21 35 34·2	M	...	...	...	−21 53 3·3	3·8	+0·5	... N.	3–4	...	...
8 21 36 50·3	C	18 52 19·89	19·57	+0·32	−21 50 11·6	11·8	+0·2	II. N.	3	3,2	−0·1
9 21 38 5·9	M	18 57 32·19	32·14	+0·05	−21 46 41·7	41·7	0·0	II. N.	3–4	2	−0·3
10 21 39 21·4	P	19 2 44·53	44·59	−0·06	−21 42 33·8	33·7	−0·1	II. N.	3–4	2	+0·2
12 21 41 52·5	C	19 13 9·09	8·98	+0·11	−21 32 23·3	23·9	+0·6	II. N.	3–4	3,1	+0·9
13 21 43 7·7	C	19 18 21·03	20·81	+0·22	−21 26 23·6	22·3	−1·3	II. N.	...	4,2	+0·4
14 21 44 22·2	P	19 23 32·29	32·31	−0·02	−21 19 43·5	43·1	−0·4	II. N.	...	4	+0·7
20 21 51 41·8	C	19 54 32·44	32·14	+0·30	−20 26 50·2	50·0	−0·2	II. N.	3–4	4,3	0·0
22 21 54 3·5	M	20 4 47·61	47·55	+0·06	−20 4 23·5	22·8	−0·7	II. N.	3	4	0·0
23 21 55 13·7	C	20 9 54·58	54·25	+0·33	−19 52 16·3	16·5	+0·2	II. N.	3	3	+0·2
27 21 59 45·7	P	20 30 13·54	13·55	−0·01	−18 58 9·3	9·1	−0·2	II. N.	3–4	3,2	+0·2
29 22 1 57·3	C	20 40 18·59	18·36	+0·23	−18 27 47·2	46·3	−0·9	II. N.	3	3,2	+0·6
Mar. 1 22 3 1·6	P	20 45 19·64	19·50	+0·14	−18 11 48·1	47·0	−1·1	II. N.	3–2	1	+0·2
2 22 4 5·0	M	20 50 19·78	19·76	+0·02	−17 55 16·3	16·1	−0·2	II. N.	2–3	3	+0·4
6 22 8 10·1	M	21 10 11·76	11·73	+0·03	−16 44 12·1	10·4	−1·7	II. N.	2–3	3	−0·4
7 22 9 9·2	P	21 15 7·56	7·40	+0·16	−16 25 14·1	11·3	−2·8	II. N.	3–2	1	−0·1
8 22 10 7·1	M	21 20 2·11	2·09	+0·02	−16 5 44·6	44·5	−0·1	II. N.	3–2	4	+0·5
9 22 11 4·3	C	21 24 56·02	55·83	+0·19	−15 45 50·9	50·4	−0·5	II. N.	3	2	+0·1
11 22 12 55·7	C	21 34 40·88	40·40	+0·48	−15 4 44·4	42·9	−1·5	II. N.	3	3,2	+0·6

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1888. d h m s		h m s	s	s	° ′ ″	″	″				″
Mar. 13 22 14 42·8	C	21 44 21·36	21·10	+0·26	−14 21 54·2	54·5	+0·3	II. N.	2	3	−0·2
14 22 15 34·8	M	21 49 10·08	10·01	+0·07	−13 59 55·7	53·9	−1·8	II. N.	3-4	2	−0·1
15 22 16 26·0	P	21 53 57·92	57·96	−0·04	−13 37 31·1	30·0	−1·1	II. N.	3-4	1	+0·5
16 22 17 16·4	M	21 58 45·06	44·98	+0·08	−13 14 43·8	43·5	−0·3	II. N.	3	5	+0·9
18 22 18 54·2	M	22 8 16·25	16·24	+0·01	−12 28 6·8	5·2	−1·6	II. N.	3-2	2	+0·5
23 22 22 43·5	P	22 31 48·95	48·99	−0·04	−10 25 42·2	40·9	−1·3	II. N.	3-2	5	+0·6
27 22 25 32·7	M	22 50 24·81	24·71	+0·10	− 8 42 30·0	31·9	+1·9	II. N.	...	3,2	0·0
Apr. 3 22 30 3·6	M	23 22 32·27	32·24	+0·03	− 5 33 8·7	8·7	0·0	II. N.	3	4	+0·6
6 22 31 52·2	C	23 36 10·87	10·72	+0·15	− 4 9 20·1	19·5	−0·6	II. N.	2-3	4,2	+0·6
8 22 33 2·6	C	...	...	...	− 3 12 47·7	47·6	−0·1	... N.	3	4	+1·0
9 22 33 37·4	P	23 49 46·01	45·86	+0·15	− 2 44 23·6	21·9	−1·7	II. N.	3	3	+1·3
15 22 37 1·5	M	0 16 49·94	49·98	−0·04	+ 0 7 42·4	43·5	−1·1	II. N.	3	6	+1·2
19 22 39 16·2	M	0 34 51·20	51·31	−0·11	+ 2 3 2·7	3·3	−0·6	II. N.	2	*f* 3	+0·2
22 22 40 58·5	C	0 48 23·50	23·30	+0·20	+ 3 29 20·7	20·8	−0·1	II. N.	2	3	−0·1
26 22 43 17·9	P	1 6 29·43	29·38	+0·05	+ 5 23 31·8	32·8	−1·0	II. S.	2-3	2	+0·7
27 22 43 53·6	M	1 11 1·82	1·80	+0·02	+ 5 51 51·3	52·2	−0·9	II. N.	2	2,1	+0·7
May 3 22 47 38·4	M	1 38 26·61	26·68	−0·07	+ 8 38 59·8	60·6	−0·8	II. N.	2-3	4,3	+0·4
7 22 50 20·8	M	1 56 55·60	55·73	−0·13	+10 26 54·9	54·5	+0·4	II. N.	3-4	*u* 4	−0·3
8 22 51 3·3	P	2 1 34·80	34·85	−0·05	+10 53 18·6	20·0	−1·4	II. N.	3-2	4	+0·1
13 22 54 48·0	M	2 25 2·95	3·04	−0·09	+13 1 32·8	32·8	0·0	II. N.	2-3	1	0·0
31 23 11 45·5	C	3 53 1·19	1·17	+0·02	+19 29 11·1	11·2	−0·1	II. N.	2-3	5	+0·1
June 6 23 18 44·0	C	4 23 40·19	40·14	+0·05	+21 4 32·8	32·6	+0·2	II. N.	2-3	5	+0·4
7 23 19 57·3	M	4 28 50·27	50·32	−0·05	+21 18 27·9	28·1	−0·2	II. N.	3	6	+0·5
11 23 25 0·5	P	4 49 40·52	40·67	−0·15	+22 8 10·6	11·2	−0·6	II. N.	2-3	6	+0·3
18 23 34 22·7	C	5 26 40·16	40·14	+0·02	+23 10 52·3	51·5	+0·8	II.N.S.	3	4	+0·5
20 23 37 8·8	C	5 37 19·80	19·96	−0·16	+23 22 47·3	47·7	−0·4	II.N.S.	3	4	+0·1
Aug. 9 0 38 12·1	P	9 51 44·43	44·57	−0·14	+14 27 58·3	58·0	+0·3	I. N.	4-3	4	+0·1
10 0 39 3·7	C	9 56 32·74	32·94	−0·20	+14 3 13·3	13·4	−0·1	I. N.	3	4	+1·0
13 0 41 32·6	M	10 10 51·64	51·77	−0·13	+12 46 45·7	45·6	+0·1	I. N.	3-4	6	+0·3
17 0 44 36·9	P	10 29 42·71	42·95	−0·24	+11 0 5·0	3·9	+1·1	I. N.	2-3	5	+0·7
18 0 45 20·8	C	10 34 23·24	23·41	−0·17	+10 32 38·4	37·7	+0·7	I. N.	...	4,2	−0·4
21 0 47 27·1	P	10 48 19·60	19·76	−0·16	+ 9 8 40·9	40·6	+0·3	I. N.	3	6	+0·3
22 0 48 7·7	C	10 52 56·88	56·95	−0·07	+ 8 40 9·5	11·0	−1·5	I. N.	2-3	5	−0·6
25 0 50 5·0	M	11 6 44·12	44·28	−0·16	+ 7 13 22·3	21·4	+0·9	I. N.	3	4	−0·4
31 0 53 44·4	M	11 34 3·42	3·36	+0·06	+ 4 14 43·4	41·9	+1·5	I. N.	3-2	6	+0·2
Sept. 1 0 54 19·1	C	11 38 34·78	34·96	−0·18	+ 3 44 26·3	24·7	+1·6	I. N.	2-3	3,2	+0·7
4 0 56 2·2	P	11 52 7·83	7·92	−0·09	+ 2 12 55·8	55·5	+0·3	I. N.	...	3,1	+0·6
13 1 1 3·7	C	12 32 39·14	39·30	−0·16	− 2 24 21·5	21·8	+0·3	I. N.	3	3	+0·3
15 1 2 11·7	M	12 41 40·40	40·19	+0·21	− 3 25 56·5	55·7	−0·8	I. N.	3-4	3	+0·5
29 1 10 50·1	M	13 45 32·00	32·19	−0·19	−10 24 52·9	53·6	+0·7	I. N.	3	2	+0·6
Oct. 2 1 12 58·7	C	13 59 30·56	30·50	+0·06	−11 49 57·7	56·8	−0·9	I. N.	3	4	+1·3
3 1 13 43·0	P	14 4 11·53	11·74	−0·21	−12 17 44·8	46·5	+1·7	I. N.	3-4	1	+0·5
5 1 15 15·2	M	14 13 37·08	37·08	0·00	−13 12 34·4	34·1	−0·3	I. N.	3-2	*c* 2	−0·5
13 1 22 5·2	C	14 52 0·66	0·73	−0·07	−16 38 17·5	18·5	+1·0	I. N.	3	5,3	−0·2
16 1 24 58·1	P	15 6 43·70	43·41	+0·29	−17 48 58·1	57·7	−0·4	I. N.	3-2	4	+0·1

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1888. d h m s		h m s	s	s	° ′ ″	″	″				″
Oct. 22 1 31 15·4	C	15 36 41·38	41·48	−0·10	−19 57 37·0	37·6	+0·6	I. N.	3	4,2	−0·3
23 1 32 22·5	P	15 41 45·24	45·46	−0·22	−20 17 17·5	17·2	−0·3	I. N.	3-4	3	+1·9
30 1 40 46·7	C	16 17 46·67	46·79	−0·12	−22 19 1·5	1·7	+0·2	I. N	3-4	5	−0·1
31 1 42 3·3	M	16 22 59·99	60·13	−0·14	−22 33 58·3	60·9	+2·6	I. N.	3-4	3	+1·3
Nov. 1 1 43 20·8	C	16 28 14·31	14·53	−0·22	−22 48 21·8	22·1	+0·3	I. N.	3	c 4,3	+0·2
8 1 52 50·8	M	...	...	...	−24 10 17·2	16·2	−1·0	... S.	3-4	6	−0·5
12 1 58 32·9	M	17 26 50·95	51·04	−0·09	−24 41 46·1	44·5	−1·6	I. N.	3-4	5	+1·2
14 2 1 26·7	M	17 37 38·33	38·56	−0·23	−24 53 5·6	6·8	+1·2	I. N.	3-4	c 2	−0·4
19 2 8 46·0	P	18 4 41·62	41·87	−0·25	−25 8 32·5	33·1	+0·6	I. N.	3	3,2	+0·3
20 2 10 14·2	M	18 10 6·63	6·76	−0·13	−25 9 24·4	23·2	−1·2	I. N.	3-4	4	+0·1
27 2 20 24·7	M	18 47 54·70	54·86	−0·16	−24 54 14·6	12·5	−2·1	I. S.	3-2	3	+0·2
28 2 21 50·1	P	18 53 16·92	17·17	−0·25	−24 49 2·9	3·1	+0·2	I. N.	...	2,1	+0·5
Dec. 5 2 31 27·9	M	19 30 32·17	32·36	−0·19	−23 52 39·3	35·4	−3·9	I. S.	3-4	5,4	+0·4
15 2 43 39·5	M	20 22 11·39	11·51	−0·12	−21 33 47·5	46·2	−1·3	I. S.	3	5	+0·7
20 2 48 52·0	C	20 47 7·53	7·58	−0·05	−20 1 22·8	20·6	−2·2	I. S.	3-4	3,2	−0·2
31 2 57 59·6	C	21 39 38·74	38·82	−0·08	−15 53 5·2	4·0	−1·2	I. S.	3-4	4,3	+0·1
1889.											
Jan. 8 3 2 37·3	C	22 15 49·67	49·69	−0·02	−12 21 35·9	34·8	−1·1	I. S.	3	3,2	−0·3
10 3 3 31·1	C	22 24 36·72	36·99	−0·27	−11 25 35·9	35·0	−0·9	I. S.	2-3	4,3	0·0
11 3 3 55·9	P	22 28 58·19	58·40	−0·21	−10 57 11·7	11·2	−0·5	I. S.	3-4	5	+0·6
17 3 5 54·6	P	22 54 36·55	36·69	−0·14	− 8 2 8·2	7·8	−0·4	I. S.	3	5,4	+0·4
18 3 6 9·3	C	22 58 47·78	48·43	−0·65	− 7 32 18·3	17·5	−0·8	I. S.	3	3	+0·6
19 3 6 23·2	P	23 2 58·31	58·43	−0·12	− 7 2 19·2	18·0	−1·2	I. S.	3-4	4	+0·1
24 3 7 12·1	C	23 23 30·11	30·31	−0·20	− 4 30 27·6	26·7	−0·9	I. S.	3	3,2	−0·2
25 3 7 18·4	P	23 27 32·97	33·02	−0·05	− 3 59 42·5	46·8	+4·3	I. S.	3-4	3	0·0
28 3 7 29·8	C	23 39 34·09	34·21	−0·12	− 2 27 24·9	24·5	−0·4	I. S.	3	3	+0·2
30 3 7 31·7	C	23 47 29·16	29·35	−0·19	− 1 25 39·3	38·1	−1·2	I. S.	3	3	+0·1
Feb. 11 3 6 12·1	C	0 33 27·92	28·12	−0·20	+ 4 42 30·0	31·8	−1·8	I. S.	3	5,2	−0·6
13 3 5 43·4	C	0 40 52·32	52·45	−0·13	+ 5 42 34·9	34·9	0·0	I. S.	3-2	3,2	+1·8
18 3 4 11·2	M	0 59 2·60	2·70	−0·10	+ 8 9 47·8	48·0	−0·2	I. S.	3-2	4	+0·2
19 3 3 49·0	C	1 2 36·93	37·07	−0·14	+ 8 38 38·2	39·2	−1·0	I. S.	3	4	+0·2
22 3 2 35·1	M	1 13 12·43	12·38	+0·05	+10 3 49·8	50·9	−1·1	I. S.	3-2	5	+0·1
27 3 0 3·0	C	1 30 22·76	22·88	−0·12	+12 20 39·5	39·5	0·0	I. S.	3	4	+0·4
28 2 59 28·0	M	1 33 44·13	44·22	−0·09	+12 47 9·7	8·9	+0·8	I. S.	3-2	4	+0·3
Mar. 4 2 56 49·6	M	1 46 51·49	51·52	−0·03	+14 29 49·7	50·2	−0·5	I. S.	2-3	3	+0·6
7 2 54 29·0	C	1 56 20·16	20·32	−0·16	+15 43 5·1	6·2	−1·1	I. S.	2-3	3,2	+0·7
8 2 53 37·3	M	1 59 24·93	25·22	−0·29	+16 6 41·7	44·9	−3·2	I. S.	4-3	3	+1·4
15 2 46 17·4	C	2 19 39·66	39·97	−0·31	+18 40 6·7	9·5	−2·8	I. S.	3-4	4,3	+0·2
18 2 42 17·6	M	2 27 28·90	29·31	−0·41	+19 38 40·4	42·9	−2·5	I. S.	3-4	5	0·0
19 2 40 49·7	C	2 29 57·29	57·65	−0·36	+19 57 9·9	10·8	−0·9	I. S.	3-4	4,2	−0·3
22 2 35 58·9	M	2 36 55·32	55·48	−0·16	+20 49 11·6	12·6	−1·0	I. S.	2-1	5	+0·4
28 2 23 55·2	M	2 48 29·01	28·95	+0·06	+22 16 40·6	42·2	−1·6	I. S.	2-3	5	+0·8
Apr. 3 2 7 56·4	C	2 56 6·83	7·22	−0·39	+23 18 29·5	31·3	−1·8	I. S.	3	4,3	+0·4
9 1 47 6·0	M	2 58 52·34	52·54	−0·20	+23 48 42·9	46·6	−3·7	I. S.	2-3	4,3	+0·4

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1889. d h m s		h m s	s	s	° ′ ″	″	″				″
May 10 22 50 13·1	M	2 7 40·16	39·95	+0·21	+15 38 29·1	31·4	−2·3	II. N.	2–3	3	+0·5
12 22 39 57·0	M	2 5 15·51	15·28	+0·23	+14 55 28·1	32·0	−3·9	II. N.	2–3	3	+0·7
22 21 57 25·7	C	2 2 2·74	2·48	+0·26	+12 19 54·7	56·9	−2·2	II. N.	2	3	0·0
June 5 21 19 57·3	M	2 19 39·97	40·00	−0·03	+11 39 57·4	59·2	−1·8	II. N.	2	4	+0·6
6 21 18 3·3	P	2 21 42·21	42·10	+0·11	+11 43 38·1	39·7	−1·6	II. N.	3	2	+0·8
7 21 16 14·3	C	2 23 49·51	49·34	+0·17	+11 48 1·1	1·9	−0·8	II. N.	3	4	+0·1
10 21 11 16·3	P	2 30 40·39	40·38	+0·01	+12 4 58·1	59·2	−1·1	II. N.	3–4	2	+0·2
17 21 2 14·2	C	2 49 12·62	12·31	+0·31	+13 3 0·6	0·6	0·0	II. N.	3–4	*p* 3	+0·2
July 2 20 52 15·8	C	3 38 20·97	20·68	+0·29	+15 55 47·3	47·0	+0·3	II. N.	2–3	4	+1·9
21 20 52 58·8	C	4 53 58·66	58·46	+0·20	+19 30 35·9	35·9	0·0	II. N.	2–3	4	+0·3
22 20 52 20·9	M	4 57 17·21	17·20	+0·01	+19 39 43·0	42·2	+0·8	II. N.	2–3	4	+0·3
25 20 54 37·3	C	5 11 23·70	23·52	+0·18	+20 5 1·6	0·3	+1·3	II. N.	3	4	+0·1
Aug. 6 21 1 52·9	C	6 5 59·14	58·96	+0·18	+21 10 22·1	20·9	+1·2	II. N.	3	3	+0·7
7 21 2 36·8	P	6 10 39·74	39·79	−0·05	+21 12 51·0	50·8	+0·2	II. S.	2–3	2	−0·1
11 21 5 43·3	C	6 29 32·94	32·85	+0·09	+21 17 48·9	50·2	−1·3	II. S.	3	3,2	+0·1
15 21 10 2·4	M	6 48 39·01	39·13	−0·12	+21 14 31·5	30·9	+0·6	II. S.	3–2	f,d 4	+0·6
20 21 13 25·9	C	7 12 45·78	45·67	+0·11	+20 58 11·4	11·9	−0·5	II. S.	3–4	3,2	+0·1
21 21 14 19·6	M	7 17 36·23	36·26	−0·03	+20 53 16·8	16·9	−0·1	II. S.	3–4	2	0·0
27 21 19 47·7	M	7 46 44·51	44·49	+0·02	+20 12 4·5	5·3	−0·8	II. S.	2–3	3	0·0
Sept. 1 21 24 21·9	C	8 11 2·31	2·17	+0·14	+19 22 31·8	31·6	+0·2	II. S.	3–4	2	+0·4
4 21 27 4·5	C	8 25 34·93	34·85	+0·08	+18 46 16·3	16·1	+0·2	II. S.	3	3	+0·1
10 21 32 21·3	M	8 54 31·95	31·96	−0·01	+17 19 35·5	36·2	−0·7	II. S.	3–4	*d* 4	+0·1
11 21 33 12·7	P	8 59 20·05	20·12	−0·07	+17 3 23·8	23·1	+0·7	II. S.	3–4	2	+0·3
12 21 34 3·8	M	9 4 7·85	7·86	−0·01	...	...	...	II. ...	3–4	3	+0·9
18 21 39 0·1	C	9 32 44·26	44·17	+0·09	+14 56 31·7	32·2	−0·5	II. S.	3–4	3,2	+0·7
23 21 42 52·3	M	9 56 19·84	19·85	−0·01	+13 12 42·5	42·5	0·0	II. S.	2–3	1	+1·4
25 21 44 21·4	C	10 5 42·27	42·24	+0·03	+12 28 21·3	23·2	−1·9	II. S.	3–4	2,1	−0·3
29 21 47 12·8	M	10 24 20·42	20·45	−0·03	+10 55 23·2	23·3	−0·1	II. S.	3	3	+0·3
Oct. 4 21 50 35·8	P	10 47 26·73	26·79	−0·06	+ 8 51 50·4	50·1	+0·3	II. S.	3–4	2	+0·6
8 21 53 10·6	C	11 5 48·17	48·10	+0·07	+ 7 7 57·6	58·4	−0·8	II. S.	3	2	+0·9
14 21 56 53·4	P	11 33 10·89	10·85	+0·04	+ 4 25 24·7	25·6	−0·9	II. S.	4–3	2	+1·0
18 21 59 18·5	C	11 51 22·59	22·42	+0·17	+ 2 32 35·7	37·3	−1·6	II. S.	3–4	2	+1·1
29 22 5 59·5	M	12 41 26·75	26·76	−0·01	− 2 41 11·3	9·6	−1·7	II. S.	3–4	2	−0·1
Nov. 10 22 14 3·5	M	13 36 50·73	50·70	+0·03	− 8 21 28·6	27·0	−1·6	II. S.	3–4	*d,u* 2,1	−0·4
12 22 15 33·1	C	13 46 13·73	13·71	+0·02	− 9 16 25·0	23·6	−1·4	II. S.	3–4	3	+0·7
20 22 22 7·1	M	14 24 21·28	21·14	+0·14	−12 47 19·9	17·3	−2·6	II. S.	3–4	3	+1·5
21 22 23 0·8	C	14 29 11·62	11·52	+0·10	−13 12 26·4	25·8	−0·6	II. S.	3	2	−0·1
Dec. 4 22 36 20·2	M	15 33 48·47	48·45	+0·02	−18 5 34·1	32·7	−1·4	II. S.	3–2	f,d,c 1	+0·6
5 22 37 30·0	C	15 38 55·08	54·91	+0·17	−18 25 4·3	2·2	−2·1	II. S.	3–4	2,1	+0·2
8 22 41 6·2	M	15 54 21·55	21·49	+0·06	−19 20 29·6	27·4	−2·2	II. S.	3–4	3	+1·5
27 23 7 32·9	C	17 35 47·15	47·06	+0·09	−23 7 18·1	16·9	−1·2	II. S.	3–4	2	+0·4
29 23 10 35·4	C	17 46 43·29	43·16	+0·13	−23 17 10·5	8·3	−2·2	II. S.	3–4	2	+0·4

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1890. d h m s		h m s	s	s	° ′ ″	″	″				″
Jan. 9 23 27 30·9	C	18 47 3·63	3·60	+0·03	−23 19 40·1	40·2	+0·1	II. N.	...	2,1	−0·8
17 23 39 30·1	C	...	...	...	−22 26 41·2	41·3	+0·1	... N.	3-4	2	+0·3
21 23 45 13·3	C	19 52 7·63	7·60	+0·03	−21 43 33·2	33·1	−0·1	II. N.	3-4	1	+0·2
Mar. 1 0 24 46·2	M	23 1 36·15	36·17	−0·02	− 7 47 54·7	55·0	+0·3	I. N.	2-3	2	+1·0
5 0 27 30·9	M	23 20 7·53	7·35	+0·18	− 5 50 42·1	40·1	−2·0	I. S.	3-4	*d*,*t* 2,1	+0·3
7 0 28 49·1	M	23 29 19·06	19·20	−0·14	− 4 51 5·9	4·0	−1·9	I. S.	3-4	2	+0·2
8 0 29 27·8	C	23 33 54·40	54·34	+0·06	− 4 21 5·0	4·0	−1·0	I. S.	3-4	2	−0·1
13 0 32 34·0	C	23 56 43·85	43·90	−0·05	− 1 49 32·7	31·5	−1·2	I. S.	3	3	0·0
24 0 39 9·2	M	0 46 42·22	42·15	+0·07	+ 3 46 44·1	46·6	−2·5	I. S.	3	p 3	0·0
31 0 43 29·6	C	1 18 39·17	39·41	−0·24	+ 7 16 53·3	55·4	−2·1	I. S.	4-3	2	+0·5
May 1 1 9 57·0	C	3 47 24·15	24·38	−0·23	+20 12 46·9	48·2	−1·3	I. S.	3	3,2	+0·6
2 1 11 4·6	P	3 52 28·52	28·65	−0·13	+20 31 2·5	3·3	−0·8	I. S.	3-4	2	+0·6
14 1 25 52·2	M	4 54 37·14	37·27	−0·13	+23 23 51·3	52·1	−0·8	I. S.	2-3	4	+0·3
28 1 45 6·8	P	6 9 6·71	6·93	−0·22	+24 44 25·5	25·1	+0·4	I. S.	3	4	+0·3
June 5 1 56 8·7	P	6 51 42·92	43·18	−0·26	+24 27 31·1	31·4	−0·3	I. S.	...	3	+0·5
11 2 4 2·4	AC	7 23 17·26	17·28	−0·02	+23 45 9·2	8·2	+1·0	I.N.S.	...	2,1	0·0
12 2 5 18·2	C	7 28 29·85	30·08	−0·23	+23 35 40·4	40·3	+0·1	I. N.	3	3	+0·3
14 2 7 47·5	AP	7 38 52·62	52·75	−0·13	+23 14 45·9	44·7	+1·2	I. N.	2-3	3	+0·2
17 2 11 23·3	C	7 54 18·68	18·79	−0·11	+22 38 29·3	28·3	+1·0	I. N.	3	4	+0·1
25 2 20 4·7	C	8 34 33·96	34·05	−0·09	+20 34 49·6	48·5	+1·1	I. N.	...	3	−0·4
26 2 21 3·8	AP	8 39 29·81	29·88	−0·07	+20 16 47·4	46·5	+0·9	I. N.	2-3	3	+0·2
27 2 22 1·5	W	8 44 24·27	24·29	−0·02	+19 58 12·0	12·3	−0·3	I.N.S.	...	2	+0·4
28 2 22 57·8	M	8 49 17·27	17·28	−0·01	+19 39 5·8	6·6	−0·8	I. N.	2	4	+1·1
July 4 2 28 5·0	AP	9 18 4·66	4·81	−0·15	+17 34 8·7	9·1	−0·4	I. N.	2-3	4	+0·2
9 2 31 41·8	W	9 41 24·82	24·83	−0·01	+15 37 42·6	42·9	−0·3	I.N.S.	...	5	+0·1
10 2 32 20·9	P	9 46 0·55	0·65	−0·10	+15 13 14·5	13·4	+1·1	I. N.	2-3	4	−0·6
11 2 32 58·7	AC	9 50 35·01	35·09	−0·08	+14 48 20·8	21·5	−0·7	I.N.S.	...	4	+1·3
25 2 39 35·2	W	10 52 24·46	24·56	−0·10	+ 8 27 40·2	41·3	−1·1	I.N.S.	...	1	+0·1
Aug. 6 2 42 32·1	C	11 42 40·48	40·56	−0·08	+ 2 29 29·5	29·4	+0·1	I. N.	2	2,1	+0·9
13 2 43 27·8	C	12 11 12·25	12·40	−0·15	− 1 4 58·6	58·0	−0·6	I. N.	2-3	3	+0·4
14 2 43 33·8	AC	12 15 14·74	14·94	−0·20	− 1 35 38·3	39·5	+1·2	I. N.	...	1	−0·4
15 2 43 39·3	AP	12 19 16·86	17·05	−0·19	− 2 6 21·1	19·8	−1·3	I. N.	3-4	2	+1·1
18 2 43 53·7	C	12 31 20·98	21·12	−0·14	− 3 38 7·5	7·9	+0·4	I. N.	2-3	2,1	−0·2
26 2 44 19·2	AP	13 3 18·99	19·13	−0·14	− 7 39 30·3	30·1	−0·2	I. N.	2-3	2	0·0
29 2 44 25·3	AC	13 15 14·78	14·92	−0·14	− 9 7 56·1	54·8	−1·3	I. N.	...	2,1	−0·1
Sept. 2 2 44 31·6	M	13 31 7·30	7·43	−0·13	−11 3 18·1	17·1	−1·0	I. N.	2-3	4	+0·3
10 2 44 40·5	M	14 2 48·63	48·77	−0·14	−14 43 10·2	9·2	−1·0	I. N.	2-3	2	+1·1
18 2 44 43·1	W	14 34 23·63	23·79	−0·16	−18 4 28·9	27·0	−1·9	I.N.S.	...	2	+1·6
Oct. 8 2 42 15·6	P	15 50 46·85	46·94	−0·09	−24 35 54·1	54·5	+0·4	I. N.	2-3	2	−0·2
31 2 20 6·2	AC	16 59 14·48	14·45	+0·03	−27 57 15·5	16·6	+1·1	I. N.	...	2	+0·3
Nov. 3 2 13 44·4	M	17 4 41·32	41·28	+0·04	−28 1 44·1	45·9	+1·8	I. N.	2-3	2,1	+1·3
4 2 11 21·6	C	17 6 14·71	14·62	+0·09	−28 2 2·6	4·6	+2·0	I. N.	2-3	2,1	+0·8
5 2 8 50·6	AP	17 7 39·83	39·68	+0·15	−28 1 45·3	47·3	+2·0	I. N.	2-3	1	+1·9

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O−C.	Declination. Observed.	Declination. Comp.	O−C.	Limbs.	Definition.	Remarks.	Day Corr.
1890. d h m s		h m s	s	s	° ′ ″	″	″				″
Nov. 6 2 6 10·8	W	17 8 56·12	56·19	−0·07	−28 0 51·2	53·0	+1·8	I. N.	3–4	2	+1·0
11 1 50 34·9	M	17 13 0·52	0·50	+0·02	−27 46 44·9	48·1	+3·2	I. N.	2–3	*t* 4,2	+0·8
20 1 11 49·3	AP	17 9 37·50	37·44	+0·06	−26 36 36·1	38·4	+2·3	I. N.	2–3	2	−0·4
Dec. 17 22 27 23·8	AC	16 15 8·60	8·15	+0·45	−18 28 24·8	24·3	−0·5	II. S.	...	1	+0·4
30 21 37 47·1	C	16 16 38·98	38·40	+0·58	−16 50 46·8	47·2	+0·4	II. S.	2–3	2	+0·8
1891.											
Jan. 7 21 19 11·8	P	16 29 33·19	33·01	+0·18	−16 58 42·9	42·5	−0·4	II. S.	2–3	...	...
11 21 12 34·9	P	16 38 41·41	41·26	+0·15	−17 15 1·4	2·2	+0·8	II. S.	3–4	3	+0·2
15 21 7 26·7	AC	16 49 18·57	18·40	+0·17	−17 36 24·6	23·0	−1·6	II. S.	3–4	p 1	−0·8
16 21 6 22·2	M	16 52 10·46	10·25	+0·21	−17 42 16·4	15·0	−1·4	II. S.	2–3	3	+1·5
18 21 4 27·0	M	16 58 8·10	7·88	+0·22	−17 54 25·4	23·7	−1·7	II. S.	2–3	2,1	+0·8
21 21 2 6·8	P	17 7 37·10	37·12	−0·02	−18 13 12·2	12·1	−0·1	II. S.	2–3	1	+0·4
26 20 59 31·9	AC	17 24 44·62	44·59	+0·03	−18 44 16·9	17·3	+0·4	II. S.	...	1,2	+0·2
27 20 59 11·6	P	17 28 20·82	20·79	+0·03	−18 50 15·9	14·0	−1·9	II. S.	3–4	3	+0·2
Feb. 1 20 58 17·5	AP	17 47 9·29	9·19	+0·10	−19 17 20·6	20·6	0·0	II. S.	3	1	+0·2
3 20 58 15·9	M	17 55 0·80	0·65	+0·15	−19 26 32·9	34·6	+1·7	II. N.	2–3	1	+0·9
5 20 58 24·2	P	18 3 2·35	2·34	+0·01	−19 34 40·7	40·2	−0·5	II. S.	3–4	3,2	−0·9
11 20 59 43·1	AP	18 28 0·75	0·64	+0·11	−19 50 49·7	48·0	−1·7	II. S.	3	2	+0·6
15 21 1 12·5	P	18 45 16·54	16·58	−0·04	−19 53 43·5	42·4	−1·1	II. N.	3	2	+0·6
16 21 1 38·8	W	18 49 39·48	39·49	−0·01	−19 53 20·8	21·0	+0·2	II. N.	2	1	+0·4
17 21 2 6·6	C	18 54 3·94	3·79	+0·15	−19 52 32·2	32·6	+0·4	II. N.	3	1	+0·1
22 21 4 43·3	M	19 16 23·88	23·90	−0·02	−19 41 26·4	29·1	+2·7	II. N.	3	1	+0·2
27 21 7 45·0	C	19 39 8·80	8·57	+0·23	−19 18 9·2	9·4	+0·2	II. N.	2–3	1	+1·0
Mar. 2 21 9 41·9	AP	19 52 55·66	55·66	0·00	−18 58 4·0	3·8	−0·2	II. N.	2–3	2	−2·7
3 21 10 22·0	C	19 57 32·48	32·35	+0·13	−18 50 20·4	20·3	−0·1	II. N.	2–3	2	−0·6
8 21 13 46·7	AC	20 20 40·44	40·38	+0·06	−18 4 1·2	1·5	+0·3	II. N.	...	1	+2·2
9 21 14 28·1	M	20 25 18·57	18·48	+0·09	−17 53 14·3	14·1	−0·2	II. N.	3	t 3	+0·5
12 21 16 32·3	P	20 39 12·76	12·82	−0·06	−17 17 52·7	51·6	−1·1	II. N.	2–3	2	+0·2
15 21 18 36·0	AP	20 53 6·42	6·30	+0·12	−16 38 4·4	3·9	−0·5	II. N.	3	3	+0·4
19 21 21 17·7	C	21 11 34·80	34·69	+0·11	−15 38 22·4	22·0	−0·4	II. N.	3	2,1	+1·1
22 21 23 15·8	C	21 25 22·84	22·83	+0·01	−14 48 48·6	49·0	+0·4	II. N.	3	2	+0·9
23 21 23 54·3	P	21 29 58·08	58·16	−0·08	−14 31 25·6	25·7	+0·1	II. N.	3	3	+0·1
Apr. 5 21 31 39·3	W	22 28 59·45	59·39	+0·06	−10 9 36·2	37·2	+1·0	II. N.	3	2	+1·2
6 21 32 11·8	P	22 33 28·64	28·66	−0·02	−9 47 3·1	2·5	−0·6	II. N.	3–4	2	−0·3
9 21 33 47·0	AC	22 46 53·77	53·76	+0·01	−8 37 32·8	33·3	+0·5	II. N.	...	1	−0·4
10 21 34 17·9	C	22 51 21·36	21·26	+0·10	−8 13 50·4	50·6	+0·2	II. N.	2–3	2	+0·2
16 21 37 14·9	P	23 17 58·17	58·18	−0·01	−5 46 30·2	30·4	+0·2	II. N.	3	2	−0·1
17 21 37 43·4	M	23 22 23·20	23·17	+0·03	−5 21 12·3	12·2	−0·1	II. N.	2–3	3	+0·5
19 21 38 39·3	C	23 31 12·45	12·32	+0·13	−4 30 2·3	3·1	+0·8	II. N.	2–3	2	−0·1
21 21 39 34·3	M	23 40 0·64	0·58	+0·06	−3 38 14·2	14·1	−0·1	II. N.	2–3	2	+0·4
22 21 40 1·3	P	23 44 24·35	24·43	−0·08	−3 12 6·8	6·3	−0·5	II. N.	3	2	+0·6
24 21 40 55·5	AC	23 53 11·75	11·77	−0·02	−2 19 27·0	27·0	0·0	II. N.	3–4	1	−1·4
28 21 42 43·0	AC	0 10 45·81	45·73	+0·08	−0 32 47·3	51·2	+3·9	II. N.	4–3	*p* 1	+0·7
May 8 21 47 18·0	W	0 54 47·12	47·13	−0·01	+3 57 5·2	5·3	−0·1	II. N.	2	1	+1·4
13 21 49 46·0	M	1 16 58·24	58·33	−0·09	+6 11 15·0	15·1	−0·1	II. N.	2–3	4	−0·6

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension. Observed.	Right Ascension. Comp.	O—C.	Declination. Observed.	Declination. Comp.	O—C.	Limbs.	Definition.	Remarks.	Day Corr.
1891. d h m s		h m s	s	s	° ′ ″	″	″				″
May 14 21 50 17·0	AP	1 21 25·95	25·90	+0·05	+ 6 37 50·4	50·3	+0·1	II. N.	2–3	3	+0·4
22 21 54 45·8	M	1 57 27·94	27·99	−0·05	+10 5 43·9	43·9	0·0	II. N.	2–3	3	+0·4
27 21 57 58·1	AC	2 20 23·53	23·61	−0·08	+12 9 39·7	38·2	+1·5	II. N.	...	3	−0·5
28 21 58 39·3	M	2 25 1·41	1·38	+0·03	+12 33 42·5	42·2	+0·3	II. N.	2–3	5	−0·2
June 7 22 6 25·0	M	3 12 13·94	14·01	−0·07	+16 17 46·8	46·7	+0·1	II. N.	2–3	3	0·0
18 22 17 1·8	AP	4 6 14·64	14·63	+0·01	+19 39 27·0	26·7	+0·3	II. N.	2–3	2,3	+0·7
22 22 21 26·0	P	4 26 25·76	25·91	−0·15	+20 38 20·5	20·1	+0·4	II. N.	3	4	+0·1
28 22 28 32·9	M	4 57 13·15	13·16	−0·01	+21 50 6·4	6·1	+0·3	II. N.	2–3	6	−0·1
29 22 29 47·3	W	5 2 24·35	24·25	+0·10	+22 0 2·9	0·7	+2·2	II. N.	3–4	1	0·0
July 5 22 37 29·1	P	5 33 46·82	46·86	−0·04	+22 46 28·4	27·2	+1·2	II.N.S.	3	3,4	+0·4
6 22 38 48·4	W	5 39 2·87	2·89	−0·02	+22 51 57·5	57·7	−0·2	II.N.S.	3	3,4	+0·9
7 22 40 8·2	M	5 44 19·40	19·43	−0·03	+22 56 49·4	48·9	+0·5	II. S.	2–3	5	+0·3
10 22 44 10·0	AP	6 0 11·61	11·61	0·00	+23 7 26·4	24·7	+1·7	II. N.	3–4	4	+0·4
14 22 49 36·6	C	6 21 25·29	25·30	−0·01	+23 12 11·8	9·7	+2·1	II. N.	2–3	3	+0·3
17 22 53 42·9	M	6 37 21·88	21·80	+0·08	+23 8 36·2	37·0	−0·8	II. S.	2–3	f,c 2	+0·7
19 22 56 26·7	M	6 47 59·29	59·26	+0·03	+23 2 52·2	51·6	+0·6	II. S.	3	*d*,p 4,5	+0·6
30 23 11 5·8	AC	7 46 2·91	3·07	−0·16	+21 43 19·5	18·4	+1·1	II. N.	3–4	2,3	+1·2
Aug. 6 23 19 46·8	P	8 22 21·27	21·42	−0·15	+20 12 16·5	16·2	+0·3	II. S.	3	2	−0·2
13 23 27 43·6	P	8 57 55·21	55·37	−0·16	+18 12 42·5	40·9	+1·6	II. S.	3	4	+0·1
18 23 32 53·9	M	9 22 49·17	49·14	+0·03	+16 31 34·0	34·4	−0·4	II. S.	2–3	4	+0·2
19 23 33 52·7	P	9 27 44·71	44·79	−0·08	+16 9 55·6	55·1	+0·5	II. S.	3	3	−0·3
20 23 34 50·6	AC	9 32 39·33	39·40	−0·07	+15 47 50·1	48·8	+1·3	II. N.	...	3	−1·1
26 23 40 17·4	C	10 1 46·28	46·23	+0·05	+13 26 18·1	18·1	0·0	II. S.	3–4	3,2	−0·5
30 23 43 36·2	M	10 20 51·90	51·94	−0·04	+11 44 21·6	21·4	+0·2	II. S.	3–4	p 3	+0·4
Sept. 4 23 48 15·8	W	10 44 24·87	25·01	−0·14	+ 9 29 43·0	43·7	−0·7	II. N.	3–4	2	+0·7
Dec. 1 1 9 32·2	M	17 49 45·03	45·28	−0·25	−24 22 55·7	55·0	−0·7	I. N.	3–4	2,1	+0·4
8 1 20 23·7	C	18 28 14·26	14·49	−0·23	−24 28 57·0	56·6	−0·4	I. N.	3–4	2	+0·4
17 1 34 3·6	M	19 17 25·35	25·41	−0·06	−23 42 31·9	31·1	−0·8	I. N.	3	f,c 3	+1·2
1892											
Jan. 5 1 58 54·0	AC	20 57 14·44	14·64	−0·20	−19 0 34·7	32·3	−2·4	I. S.	3–4	2	+0·1
13 2 7 1·2	M	21 36 55·54	55·77	−0·23	−15 59 46·8	43·5	−3·3	I. S.	3	2,1	+0·1
21 2 13 42·1	M	22 15 9·97	10·15	−0·18	−12 31 27·7	26·2	−1·5	I. S.	3	4	+1·3
25 2 16 33·3	C	22 33 47·82	47·95	−0·13	−10 39 7·2	4·8	−2·4	I. S.	3–4	3	+0·8
Feb. 11 2 25 53·2	M	23 50 10·72	11·00	−0·28	− 2 3 1·2	0·0	−1·2	I. S.	3–4	p 1	+0·1
15 2 27 37·8	C	0 7 41·81	41·95	−0·14	+ 0 2 59·3	60·2	−0·9	I. S.	...	2	−0·4
19 2 29 16·8	AC	0 25 7·37	7·61	−0·24	+ 2 9 3·6	6·9	−3·3	I. S.	3–4	3	−0·3
22 2 30 29·3	M	0 38 9·69	9·93	−0·24	+ 3 43 17·2	19·3	−2·1	I. S.	3	2	+1·0
24 2 31 17·3	C	0 46 50·92	51·15	−0·23	+ 4 45 44·3	46·2	−1·9	I. S.	3–4	3,2	+0·1
25 2 31 41·3	W	0 51 11·53	11·75	−0·22	+ 5 16 48·8	51·1	−2·3	I. S.	3	3,2	+1·4
Mar. 2 2 34 7·3	M	1 17 17·27	17·48	−0·21	+ 8 20 35·9	36·6	−0·7	I. S.	3	1	+0·1
8 2 36 41·1	P	1 43 30·86	31·12	−0·26	+11 17 47·2	48·3	−1·1	I. S.	3	1	0·0
9 2 37 7·9	C	1 47 54·28	54·53	−0·25	+11 46 30·4	31·1	−0·7	I. S.	2–3	2	−0·1
11 2 38 2·6	C	1 56 42·21	42·51	−0·30	+12 43 7·1	8·2	−1·1	I. S.	3–4	2	+0·2

Digitized by Google

Cape Mean Time.	Obs.	Right Ascension.		O—C.	Declination.		O—C.	Limb.	Definition.	Remarks.	Day Corr.
		Observed.	Comp.		Observed.	Comp.					
1892. d h m s		h m s	s	s	° ′ ″	″	″				″
Mar. 17 2 40 57·5	P	2 23 16·89	17·13	−0·24	+15 25 43·2	44·0	−0·8	I. S.	...	2	−0·2
23 2 44 10·6	C	2 50 9·80	10·02	−0·22	+17 55 37·1	37·6	−0·5	I. S.	3–4	2	−0·3
Apr. 13 2 57 23·0	C	4 26 12·03	12·37	−0·34	+24 29 16·2	16·3	−0·1	I. S.	3	2	0·0
14 2 58 2·0	W	4 30 47·67	47·83	−0·16	+24 42 3·9	4·8	−0·9	I. S.	...	2	−0·1
20 3 1 45·7	AP	4 58 11·37	11·55	−0·18	+25 46 31·4	33·2	−1·8	I. S.	3–4	3	+0·5
21 3 2 20·8	P	5 2 43·05	43·30	−0·25	+25 55 12·4	13·1	−0·7	I. S.	3	3	+0·3
26 3 5 1·9	P	5 25 7·44	7·53	−0·09	+26 29 34·0	34·8	−0·8	I. S.	3	3	+0·2
27 3 5 30·6	AP	5 29 32·74	32·81	−0·07	+26 34 38·8	40·0	−1·2	I. S.	3	3	+0·6
28 3 5 57·6	C	5 33 56·37	56·66	−0·29	+26 39 7·6	8·8	−1·2	I. S.	3–4	2	+0·2
May 9 3 8 49·2	AP	6 20 10·52	10·66	−0·14	+26 50 57·3	58·4	−1·1	I. S.	2–3	4	+0·2
12 3 8 42·2	P	6 31 53·17	53·36	−0·19	+26 42 57·4	55·9	+1·5	I. S.	2–3	4	−0·5
16 3 7 46·4	AP	6 46 43·47	43·60	−0·13	+26 25 29·5	30·9	−1·4	I. S.	3	5	0·0
25 3 1 42·3	C	7 16 7·36	7·58	−0·22	+25 22 13·1	13·5	−0·4	I. N.	2–3	3	+1·0
27 2 59 28·0	AP	7 21 45·89	46·10	−0·21	+25 4 23·6	24·4	−0·8	I. N.	2–3	5,4	−0·1
June 7 2 39 42·0	AP	7 45 18·75	18·97	−0·22	+23 10 30·2	31·7	−1·5	I. N.	3	5	+0·1
13 2 22 25·2	W	7 51 38·49	38·76	−0·27	+22 2 40·2	41·2	−1·0	I. N.	...	4	+0·5
16 2 11 44·5	W	7 52 45·63	45·93	−0·30	+21 28 42·9	44·9	−2·0	I. N.	...	4	0·0
July 19 22 55 27·4	AP	...	...	...	+16 50 49·5	51·7	−2·2	N.	3	3	+0·2
20 22 49 49·5	C	...	...	...	+16 48 9·7	11·7	−2·0	N.	2–3	2	+0·4
31 21 58 25·2	C	6 40 6·42	6·38	+0·04	+16 44 7·4	7·0	+0·4	II. N.	2–3	3,2	+0·1
Aug. 1 21 54 23·0	AP	6 40 20·22	20·23	−0·01	+16 45 38·3	38·0	+0·3	II. N.	3	3	0·0
4 21 44 31·8	AP	6 41 56·94	56·96	−0·02	+16 51 23·9	24·6	−0·7	II. N.	3	c 1	+0·4
10 21 27 58·4	P	6 49 0·16	0·26	−0·10	+17 6 12·7	13·0	−0·3	II.N.S.	2–3	3	+0·4
11 21 25 40·1	C	6 50 38·08	37·99	+0·09	+17 8 48·0	48·2	−0·2	II.N.S.	2	2,1	+0·4
12 21 23 28·7	AP	6 52 22·89	22·87	+0·02	+17 11 20·5	21·3	−0·8	II.N.S.	3	1	−0·8
16 21 15 50·0	C	7 0 29·13	29·04	+0·09	+17 20 46·6	45·0	+1·6	II. N.	2–3	3,2	−0·1
19 21 11 9·1	C	7 7 37·15	37·14	+0·01	+17 26 20·2	19·8	+0·4	II.N.S.	2	3	0·0
28 21 1 31·8	P	7 33 27·21	27·25	−0·04	+17 30 8·5	8·9	−0·4	II. S.	2	1	+1·0
29 21 0 48·4	C	7 36 40·28	40·19	+0·09	+17 29 1·4	2·3	−0·9	II. S.	2	2	−0·4
Sept. 1 20 58 58·7	C	7 46 39·95	39·81	+0·14	+17 23 31·5	31·7	−0·2	II. S.	3	1	+0·2
6 20 56 56·8	C	8 4 20·49	20·44	+0·05	+17 6 27·1	27·5	−0·4	II. S.	3	3,2	−0·3
9 20 56 15·2	C	8 15 28·45	28·28	+0·17	+16 51 5·2	5·8	−0·6	II. S.	2–3	1	+0·6
18 20 55 57·7	P	8 50 39·84	39·90	−0·06	+15 40 15·9	15·4	+0·5	II. S.	3	2	+0·3
19 20 56 3·5	P	8 54 42·20	42·34	−0·14	+15 30 3·2	2·4	+0·8	II. S.	2–3	2	−0·5

Digitized by Google

Digitized by Google

ROYAL OBSERVATORY, CAPE OF GOOD HOPE.

PLANETARY OBSERVATIONS,

1884-1892.

DAY CORRECTIONS TO DECLINATION.

Digitized by Google

DAY CORRECTIONS.

---

* attached to the star's number signifies that the R. A. was not observed, † that the R. A. was not used.

The notes have been abbreviated as follows:—c, cloudy; d, diffused; f, faint; h, hazy; m, foggy p, poor, or unsatisfactory observation; s, scarcely visible; u, unsteady.

"Very" is denoted by italic, and "Extremely" by capital letter.

Digitized by Google

Day Corrections to Declination from Observations of Stars.

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1884.			″		
Feb. 16	P	71	+ 0·18		...
19	M	71	+ 0·32		...
19	R	61	...		...
20		3	− 0·22		...
			− 0·22		
22	R	3	+ 1·52		...
25	C	3	− 1·14		...
Mar. 9	P	71	+ 0·39		...
11	R	71	− 0·80		...
12	C	71	+ 0·31		...
14	C	71	...		...
16	C	71	+ 0·70		...
17	R	71	+ 0·72		...
21	M	65	+ 0·25		...
22		3	+ 1·61		...
			+ 0·93		
22	P	8	+ 0·14		...
24	R	66	− 0·35		...
26	C	71	+ 0·28		...
28	P	71	− 0·14		...
29		8	(+ 2·58)	*f*	...
			− 0·14		
31	C	71	+ 0·06		...
Apr. 1	P	71	− 1·55		...
2		8	+ 0·64		...
			− 0·46		
2	M	71	− 1·04		...
8	R	71	− 0·49		...
9	P	3*	+ 0·72		...
20	M	3	+ 0·59		...
21		13	− 0·44		...
			+ 0·08		
21	R	3	− 0·95		...
22		13	+ 0·36		...
			− 0·30		
22	P	3	+ 0·40		...
23		11	+ 1·56		...
			+ 0·98		
23	C	3	+ 0·47		...
24		13	+ 0·20		...
			+ 0·34		
24	M	3	+ 1·83	F,c	...
25	C	3	+ 2·37		...
28	M	3	+ 0·78		...
29		17	+ 1·43		...
			+ 1·11		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1884.			″		
Apr. 30	P	3	...		...
May 1		13	+ 0·38		...
			+ 0·38		
6	M	13	...		...
7	M	3	+ 1·07		...
9	C	19	+ 1·55		...
12	C	3	+ 0·22		...
15	M	3	+ 1·21		...
16		8	...		...
		16*	− 0·32		...
		17	+ 0·60		...
		19	+ 0·79		...
			+ 0·57		
19	C	13	+ 1·48		...
		19	− 0·31		...
			+ 0·59		
26	M	8	+ 2·40		...
		10	...		...
			+ 2·40		
28	C	13	+ 0·71		...
		19	+ 1·04		...
			+ 0·88		
29	M	13	+ 1·48		...
		23	+ 1·38		...
			+ 1·43		
June 5	C	19	+ 3·10		...
7	C	13	...		...
		19	+ 0·65		...
			+ 0·65		
10	P	19	...		...
13	C	23	+ 1·03		...
18	C	23	+ 0·59		...
22	C	13	...		...
23		27	− 0·33		...
			− 0·33		
24	P	10	+ 1·30		...
		11	+ 1·33		...
25		27	− 0·40		...
			+ 0·74		
29	C	10	+ 0·66		...
		19	+ 0·43		...
			+ 0·55		
July 2	P	11	+ 0·28		...
3	C	13	+ 0·60		...
4		27	+ 2·46		...
			+ 1·53		

Date.	Observer.	Star	Correction.	Notes.	Definition.
1884.			″		
July 4	C	11	+ 1·63		...
		13	+ 0·04		...
5		27	...		...
			+ 0·84		
13	M	13	+ 0·55		...
		16	+ 1·18		...
			+ 0·87		
15	P	17	+ 0·20		...
16		31	+ 0·16		...
			+ 0·18		
17	M	23*	+ 1·85		...
27	P	27	+ 0·32		...
28		31	+ 0·99		...
			+ 0·66		
29	C	19	+ 1·34		...
		23	− 1·01		...
			+ 0·17		
30	M	21	+ 1·46	c	...
		27	+ 0·42		...
31		31	+ 3·27		...
			+ 1·72		
31	P	21	...		...
		23	− 0·57		...
Aug. 1		31	− 0·43		...
			− 0·50		
3	M	23	+ 0·21		...
4		34	+ 1·74		...
			+ 0·98		
4	C	22	...		...
5		31	+ 1·12		...
			+ 1·12		
6	C	27	+ 1·26		...
7		31	+ 0·76	*f*	...
			+ 1·01		
8	M	36	− 0·19		...
8	C	22	− 0·04		...
		25	− 0·16		...
			− 0·10		
11	P	27	− 0·48		...
14	P	35	...		...
15	C	27	+ 1·59		...
19	C	27	− 0·39		..
22	C	27	+ 0·35		...
28	C	41	+ 1·01		...
29	P	41	+ 0·86		...

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1884.			″		
Sept. 11	P	31	+ 1·36		...
		32	...		...
			+ 1·36		
14	P	31	+ 0·97		...
16	C	41	...		...
17	P	31	+ 1·05		...
		32	+ 2·42		...
18		42	+ 2·83		...
			+ 2·10		
19	C	42	+ 2·27		...
21	C	31	+ 0·22		...
22		41	+ 0·74		...
			+ 0·48		
23	P	41	− 0·21		...
28	P	32	+ 0·43		...
29		42	+ 1·19		...
			+ 0·81		
Oct. 2	C	41	+ 0·48	F	...
		42	+ 0·27	*f,d*	...
			+ 0·38		
3	P	42	+ 2·13		...
6	C	42	+ 1·87		...
15	P	42	+ 2·54		...
		50	+ 0·94		...
			+ 1·74		
17	P	42	+ 1·60		...
		50	+ 0·26		...
			+ 0·93		
21	P	50	+ 1·19		...
22	P	35	− 0·74	*f*	...
23		50	+ 0·44		...
			− 0·15		
29	P	50	− 0·30	*p*	...
31	P	50	− 0·57		...
Nov. 2	C	41	...		...
3		50	+ 0·03	*f,d*	...
			+ 0·03		
4	P	50	− 0·31		...
10	P	41	+ 0·85		...
11		50	+ 0·54		...
			+ 0·70		
11	C	41	+ 0·85		...
16	P	42	− 0·02		...
17		58	+ 2·04		...
			+ 1·03		
20	C	58	+ 0·92	D	...
20	P	42	+ 1·28		...
24	P	42	+ 2·74	*p*	...
30	P	42	...		...
Dec. 2	C	62	+ 1·21		...
3	P	42	+ 1·66		...
1884.			″		
Dec. 5	C	62	+ 0·24		...
5	P	42	+ 0·70		...
8	C	62	− 0·05		...
9	P	58	...		...
		62	+ 0·05		...
			+ 0·05		
9	M	41	+ 0·93	*d*	...
		42	− 0·29		...
			+ 0·32		
10	C	62*	+ 1·13		...
13	M	62	+ 1·05	*d*	...
15	M	42*	+ 0·51	d	...
16	M	42*	− 0·03	*d*	...
18	C	62	− 0·15		...
18	P	42	+ 1·79		...
		50	− 0·94		...
			+ 0·43		
19	M	50	− 1·28	*f,d*	...
22	C	62	+ 0·15	*f*	...
22	M	42	+ 0·73		...
		50	+ 1·04		...
			+ 0·89		
23	C	42	+ 0·70		...
		50	+ 0·33		...
			+ 0·52		
28	C	50	...		...
29		62	+ 0·16	F	...
			+ 0·16		
29	M	42	+ 0·34		...
		50	− 0·32		...
			+ 0·01		
1885.					
Jan. 6	P	50	− 0·53		...
13	M	58	+ 0·79	*f,d*	...
14	P	50	+ 0·26		...
15	C	43	...		...
16		71	+ 0·14		...
			+ 0·14		
16	M	45	+ 2·91	*d*	...
		48	+ 1·24		...
		62	− 0·25		...
			+ 1·30		
18	C	54	+ 1·55		...
		58	+ 0·78		...
19		71	− 0·01		...
			+ 0·77		
19	M	54	+ 2·74	*d*	...
		62	+ 1·31		...
20		71	− 0·81		...
			+ 1·08		
Jan. 20	P	54	...	*f*	...
21		71	− 0·29		...
			− 0·29		
22	C	71	− 1·24	c	...
22	M	54	+ 2·60	*f,d*	...
23		71	+ 0·61		...
			+ 1·61		
25	P	58	+ 1·31		...
		62	+ 0·01		...
26		71	+ 0·54		...
			+ 0·62		
28	C	58	+ 0·37		...
29		71	+ 0·41		...
			+ 0·39		
30	M	62	− 0·11	*f,d*	...
31		71	− 0·62	*d*	...
			− 0·37		
Feb. 1	P	58	...		...
Nov. 30	M	42	− 0·21		...
		44	− 0·34		...
Dec. 1		54	− 1·47		...
		62	+ 0·48		...
			− 0·39		
3	P	42	+ 1·53		...
		43	+ 1·21	*f*	...
		44	+ 0·80	*f*	...
4		54	...		...
		62	+ 0·16		...
			+ 0·93		
7	M	62	− 1·42	*f,d*	...
7	P	50	+ 1·23		...
8		54*	+ 0·10		...
		62	+ 0·77		...
			+ 0·70		
11	C	43*	+ 0·37		...
		44	+ 0·77	d	...
		48	− 0·17	d	...
		50	+ 0·62	*f,d*	...
			+ 0·40		
13	M	50	− 1·27		...
14		62	+ 0·95		...
		65	+ 1·91	*f,d*	...
			+ 0·53		
15	P	50*	+ 1·17	*p*	...
16		62	− 0·35	*p*	...
			+ 0·41		
17	C	44	+ 0·50		...
		48	+ 1·00		...
		50	+ 0·87		...
18		62	+ 1·34		...
			+ 0·93		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1885.			"		
Dec. 20	P	44	+ 1·60		...
		46	+ 0·48	f	...
		50	+ 1·51		...
			+ **1·20**		
22	C	62	+ 0·55	D	...
22	M	46	− 0·65		...
		48	− 0·14	F	...
		50	− 0·04		...
23		62	+ 0·66		...
		66	+ 0·39		...
			+ **0·04**		
23	C	46	+ 0·31		...
		50	+ 0·70		...
24		62	+ 0·31		...
			+ **0·44**		
27	M	48	(− 3·82)	F	...
		50	− 0·08		...
28		62	+ 0·02	*d*	...
		65	(− 3·00)	*f*,*d*	...
			− **0·03**		
29	C	48*	+ 0·77		...
		50	+ 1·11		...
30		62	+ 0·29		...
		65	+ 0·86		...
			+ **0·76**		
1886.					
Jan. 3	C	50	+ 1·34		...
		52	+ 1·62	s	...
		54	+ 3·36	*f*,*d*	...
4		62	+ 1·27		...
			+ **1·90**		
5	M	66	− 2·50		...
5	P	50	+ 1·58		...
		52	+ 2·90		...
		62	+ 1·83		...
		65	...		...
			+ **2·10**		
6	M	50	− 0·06	d	...
		54	...		...
7		62	+ 0·43		...
		66	(− 2·59)		...
			+ **0·18**		
11	P	52	+ 1·19	*f*	...
		54	+ 1·25	*f*	...
		55	+ 3·33	*f*	...
12		62	+ 1·78		...
			+ **1·89**		
12	M	52	+ 0·39		...
14	P	52	+ 1·74		...
		54	+ 2·39		...
			+ **2·07**		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1886.			"		
Jan. 18	P	55	+ 1·59		...
		59	+ 1·60		...
			+ **1·60**		
20	C	55	+ 1·21		...
		62	+ 1·12		...
21		71	+ 0·68		...
			+ **1·00**		
22	M	54	+ 1·13		...
		61	+ 0·76		...
			+ **0·95**		
27	C	71	+ 1·93		...
29	C	56	+ 0·58		...
		61	(+ 2·74)	s	...
			+ **0·58**		
31	P	61	+ 0·87		...
		62	− 0·06		...
			+ **0·41**		
Feb. 3	C	59	− 0·26		...
		62	− 0·06	*f*,*d*	...
			− **0·16**		
5	M	59	+ 1·28		...
		62	− 0·04	*d*	...
			+ **0·62**		
7	C	59	+ 1·05		...
8		71	+ 0·37		...
		72	...	*f*	...
			+ **0·71**		
9	P	61	...	*f*	...
		62	+ 2·13		...
10		71	+ 1·42		...
			+ **1·78**		
10	C	59	+ 0·50	*p*	...
		62	+ 0·92	*p*	...
11		71	+ 0·72		...
			+ **0·71**		
21	P	61	+ 1·03		...
		62	+ 1·11		...
22		71	+ 0·01		...
			+ **0·72**		
22	C	62	+ 0·21	*p*	...
23		71	− 0·67	*p*	...
			− **0·23**		
23	F	61	...		..
		62	+ 0·48	*u*	...
24		71	...	*f*,*u*	...
			+ **0·48**		
25	P	61	+ 0·25		...
		62	+ 0·34		...
			+ **0·30**		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1886.			"		
Feb. 26	M	61	− 2·26		...
		62	+ 0·35		...
27		71	− 0·47		...
			− **0·79**		
28	C	62	− 0·18		...
		63	+ 0·96		...
Mar. 1		3	+ 0·37		...
			+ **0·38**		
2	F	8	...		...
2	P	62	+ 0·51		...
3		3	+ 0·66		...
			+ **0·59**		
3	M	71	− 0·45	*p*	...
4	M	63	...		...
		64	...		...
		66	− 2·63		...
		71	− 0·23	*d*	...
5		4	− 0·96	F	...
			− **1·27**		
9	F	61	+ 0·22		...
		62	− 0·11		...
		63	+ 0·61		...
		65	+ 0·44		...
		66	+ 0·43		...
		71	+ 0·46	u	...
10		3	+ 1·01	*u*	...
			+ **0·44**		
10	C	65	+ 0·49	*f*	...
		66	− 0·56		...
		71	− 0·18		...
11		3	− 0·16		...
			− **0·10**		
15	P	65	+ 1·16		2
		66	+ 0·87		1–2
		68	+ 0·87	*f*	3–2
		71	+ 0·84		...
16		3	+ 0·39		1–2
			+ **0·83**		
16	C	65	+ 0·21	*f*	2
		66	− 0·42	*f*,c	3–2
		71	+ 0·45	*f*	2
17		3	+ 0·23		2
			+ **0·12**		
17	F	61	− 0·63		3–2
		62	+ 0·12		3–2
		65	+ 0·17		3–2
		68	− 0·70		3–4
		71	+ 0·33		3–4
18		3	+ 1·06		4–3
			+ **0·06**		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1886.			″		
Mar. 18	M	66	− 2·65	*f*	3
19	C	71	+ 0·37		3
20		3	+ 0·08	*f*,c	3
			+ 0·23		
21	C	65	− 0·07		2
		71	− 0·73		3
22		3	− 0·36	*f*	3
			− 0·39		
22	P	65	+ 0·70		2
		68	+ 1·36		3
		71	+ 0·35		2
23		3	+ 1·36		3
		8	+ 1·57		3
			+ 1·07		
23	F	65	+ 1·11		3–4
		66	− 0·82	*u*	...
		71	+ 0·36		...
24		3	+ 1·26	*u*	...
		8	+ 1·40		...
			+ 0·66		
24	M	65	+ 0·31		2
		66	− 0·23		2
		71	− 0·77		3
		72	(− 3·41)	s	3–4
25		3	− 2·50		3–2
		5	− 0·96		3–4
		8	− 0·06		3
			− 0·70		
25	C	65	+ 0·60		3
		66	− 0·01		3
		71	+ 0·20		3–4
		72	− 0·27	s	3–4
26		3	− 0·76		3–4
			− 0·05		
28	M	65	+ 0·56		3–2
		66	+ 0·71		3–2
		68	− 0·13		3–4
		71	+ 0·24		3–4
29		3	+ 0·78		2–3
			+ 0·43		
30	P	66	+ 0·57		2
		71	− 0·34		3–2
			+ 0·11		
31	M	66	+ 0·85		2–3
		71	+ 0·06		2–3
Apr. 1		3	+ 1·32		2–3
		8	(− 3·91)		2–3
			+ 0·74		
1	F	71	0·00		...
		3	+ 0·66		...
			+ 0·33		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1886.			″		
Apr. 4	F	68	...	F	...
		71	+ 0·22	*f*	3–4
		72	...	*f*	...
		3	+ 2·55		...
5		8	...	F	...
			+ 1·39		
5	M	71	− 0·92		3–4
		3	+ 0·53	*f*,c	3–4
			− 0·20		
6	C	71	+ 0·32		3–4
		72	+ 1·16	*f*	3–4
		3	+ 1·22		2
7		9	− 0·13		3
		10	+ 0·93		3
			+ 0·70		
8	P	8	+ 0·86	c	...
		9	− 0·80		...
		10	− 0·07		...
			0·00		
8	M	71	+ 0·64		2–3
		72	− 1·44	F	4–3
		3	− 0·24		2–3
9		10	− 0·64		3
			− 0·42		
9	C	71	− 0·02		2
10		5	+ 0·64		2–3
			+ 0·31		
11	M	3	+ 1·05		2
12		10	+ 0·76		2
		11	+ 1·04		3–4
			+ 0·95		
13	P	71	+ 0·04		2
		72	+ 0·13		...
		3	+ 2·32		3
14		9	+ 0·87		3
		10	− 0·34		2–3
			+ 0·60		
14	C	71	− 0·06		3
		72	+ 0·86	*f*	3–4
		3	+ 1·27		...
			+ 0·69		
15	M	71	+ 0·22		2–3
		72	− 1·38		3
			− 0·58		
18	P	71	+ 0·58		2
		3	+ 0·62		2–3
19		10	+ 0·25		2–3
		11	+ 0·09		...
			+ 0·39		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1886.			″		
Apr. 19	M	3	− 1·23		3
20	C	72	+ 0·46		2
		3	+ 0·85		3
21		8	+ 1·31	*f*	3
		10	+ 0·26		3
		11	+ 0·03		3
			+ 0·58		
21	F	71	+ 0·99		3
		3	+ 0·93		3–4
22		10	+ 0·31		3–4
		11	+ 0·72		4–3
			+ 0·74		
23	M	71	+ 0·17		2–3
		72	+ 1·04	*f*	2
		1	...		2–3
		3	+ 0·06		3
24		8	− 0·05		3–4
			+ 0·31		
25	F	71	− 0·35		3–2
26		10	+ 0·67	f	...
			+ 0·16		
26	C	3	+ 0·20		2
27		8	+ 0·04		3
		10	− 0·61		2–3
		11	+ 0·30		2–3
		13	+ 0·57		2
			+ 0·10		
29	M	1	...	F	4–3
		2	− 1·06	f	3
		3	− 0·14		3–4
30		10	+ 0·37		3–4
		13	+ 1·68		3–4
			+ 0·21		
May 9	C	3	+ 0·45	*f*,c	2–3
10		10	+ 0·56		3
		13	+ 0·29		3
		16	+ 0·54		...
		17	+ 0·28		...
			+ 0·42		
10	M	3	...		1–2
11	F	3	+ 0·52		1–2
12		10	+ 0·24		2
		11	+ 0·44		3–4
			+ 0·40		
12	P	3	(+ 2·60)		2–3
		6	+ 0·41		2–3
13		10	+ 0·91		2
		11	+ 0·69		2–3
		13	+ 0·51		3–2
			+ 0·63		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1886.			"		
May 13	C	3	+ 0·71		3
14		16	+ 1·06		3
		17	− 0·14		3
		18	− 1·20		3
			+ 0·11		
14	M	68	− 0·83	*f*,m	3
16	C	3	− 0·15		2
		5	+ 0·83		3
			+ 0·34		
17	M	3	+ 1·35		1–2
		5	(+ 3·22)		3
18		13	+ 0·69		3
			+ 1·02		
20	P	10	− 0·20		3–2
20	F	3	...		...
		5	− 0·13		3
21		11	+ 1·43		...
		13	...		...
			+ 0·65		
21	M	1	(+ 2·83)		3
		5	+ 0·22		2
			+ 0·22		
24	M	5	+ 0·76		2
25		23	(− 2·36)	F,c	3
			+ 0·76		
28	M	3	+ 0·63		...
		9	− 0·86		2
		10	− 0·03		2
			− 0·09		
June 1	C	13	+ 0·13		2
		15	**+ 0·86**	*f*	3
		16	+ 0·76		...
			+ 0·58		
2	F	5	...	*f*	...
		9	...	F	...
		10	− 0·13		...
3		16	+ 0·33		3–4
			+ 0·10		
7	P	13	+ 1·02		2
		16	...		...
		19*	+ 0·60		...
		23	+ 0·43		...
			+ 0·68		
7	M	6	+ 0·56	*f*	2
		9*	− 0·13		2
8		13	...		2
		18	(− 2·15)		2
			+ 0·22		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1886.			"		
June 8	C	8	− 0·09		3
		9	+ 0·01		...
		10	+ 0·27		...
		22†	+ 0·14		...
			+ 0·08		
		9			
	M	6	+ 0·03	*f*	2
		19	**+ 1·68**		2
			+ 0·86		
	C	10	− 0·65		2
14	P	8	+ 1·40		2
		13	+ 1·50		3
15		19	+ 1·81		3
		22†	+ 0·68		3
			+ 1·35		
15	M	8	− 0·30		3–4
		10	− 0·94		3
			− 0·62		
16	F	9	− 0·23		4–3
		11	+ 1·98	*f*,c	4–3
		16	+ 1·18	f	...
		17	+ 0·61		...
17		19	(− 2·69)		...
		22†	+ 0·95		...
		23	+ 1·03		3–4
			+ 0·92		
17	M	9	...		...
		10	− 0·04		2
18		22†	+ 0·46		2
		23	+ 0·84		2
			+ 0·42		
18	C	17	+ 0·53		...
19		22†	+ 0·64	*f*,c	...
			+ 0·59		
21	M	9	+ 0·36		1–2
		19	− 0·21		2
			+ 0·08		
22	C	9	− 0·92	*f*	2
		10	+ 1·09		2
		13	+ 0·81		1–2
		19	(− 1·97)	a,c	...
23		23	+ 1·04		...
			+ 0·51		
23	P	13	+ 1·28		...
		17	+ 1·28	*f*	3
			+ 1·28		
25	M	13	+ 0·78		1–2
		16	− 0·45		1–2
		17	+ 0·20		1–2
		19*	+ 1·77		3
26		22†	− 0·10		2
			+ 0·44		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1886.			"		
June 28	C	16	+ 0·09		2
		17	+ 0·29	c	2
29		22†	− 0·40		2
			− 0·01		
July 4	M	11	+ 1·19		2–3
		13	+ 0·19		2–3
		16	+ 0·44		2–3
		17	+ 0·95		2–3
		19	− 0·52		3
5		31	− 0·51		3
			+ 0·29		
5	C	11	+ 1·09		3–2
		12	− 0·15		2–3
		15	+ 0·44		3–4
6		31	+ 0·78		...
			+ 0·54		
6	F	13	− 0·49		2–3
		18	− 0·11		3
		23	(− 3·67)		...
7		27	+ 0·45		...
		31	− 0·02		2–3
			− 0·04		
7	C	11	+ 0·79		2–3
8		31	+ 0·59		...
			+ 0·69		
8	M	11	+ 0·67		3–4
		13	+ 1·29		3–4
		16	− 0·93		3–4
		17	+ 0·36		3–4
		19	+ 0·84		3–4
		22†	+ 0·28		3
9		27	− 1·29		3
		31	+ 0·53		3
			+ 0·22		
9	P	11	+ 0·72		2
		15	+ 1·40	*f*	3–2
10		27	+ 1·90		2–3
		31	+ 1·09		...
			+ 1·28		
11	C	13	+ 0·76		3
		18	+ 0·49		3
12		31	+ 1·17		3
			+ 0·81		
12	M	13	+ 1·02		3–4
		16	− 0·40		3–4
		17	+ 0·91		3–4
		19	+ 0·26		3–4
		22†	+ 0·70		3–4
13		31	− 0·10		3–4
			+ 0·40		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1886.			"		
July 13	M	13	+ 0·54		3
		15	(− 2·36)	*f*	3–4
		17	+ 0·92		3
		23	− 0·05		3
			+ 0·47		
14	P	16	+ 0·70		2–3
		27	+ 1·10		3–2
15		31	+ 0·96		...
			+ 0·92		
16	F	13	+ 0·92		3–4
		17	− 0·30		3
		23	− 0·28		3–4
		27	− 0·03		...
17		31	+ 0·44		3–2
			+ 0·15		
20	M	19	− 0·21		2–3
		23	− 0·14		3
21		32	+ 0·16		2–3
			− 0·06		
21	C	16	− 0·72		3
		17	+ 0·89		3
		19	+ 1·89		3–4
22		32	+ 0·88		2
			+ 0·74		
23	M	22†	+ 0·41		2–3
		23	+ 0·69		1–2
		24	+ 0·55		1–2
		27	+ 0·29		3
24		32	− 1·71		3–4
			+ 0·05		
25	P	16	+ 0·24		2
		17	+ 0·57		2
		23	− 0·27		2–3
26		31	+ 0·79		2–3
			+ 0·33		
26	M	17	+ 0·73	*f*	3
		19	+ 0·95		2–3
		23	+ 0·36		3
			+ 0·68		
27	C	17	+ 1·53		4–3
		19	+ 1·04		3–4
		27	+ 0·64		3
28		31	+ 0·31		...
		33	+ 0·47		...
			+ 0·80		
28	M	19	+ 1·24		2
		23	+ 1·42		3
		24	+ 1·06		3–4
29		31	+ 0·52		3
			+ 1·06		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1886.			"		
July 29	F	19	+ 1·24		...
		23	+ 1·33		3–2
			+ 1·29		
	30	C	19	+ 1·83		3
			22†	+ 0·42		2
			23	+ 0·64		3
			27	+ 0·79		...
	31		31	+ 1·57		...
			32	− 0·73		...
				+ 0·75		
Aug. 1	C	23	− 0·10		...
		27	− 0·69		...
2		31	− 0·02		...
			− 0·27		
2	M	22†	0·00		3
		23	− 0·04	*f*,c	...
3		32	(+ 3·62)	F	...
			− 0·02		
3	P	22†	− 0·06		2–3
		23	+ 0·85		2–3
		27	− 1·21		3
			− 0·14		
4	C	27	− 0·32		...
9	C	23	+ 0·36		3
		24	+ 0·84	*f*	...
		28	− 0·58	*f*	3–4
			+ 0·21		
10	M	22†	+ 0·03		4–3
		23	+ 0·31		3–4
		27	− 0·82		3
			− 0·16		
11	C	22†	+ 0·94		3–4
		23	+ 0·73	*f*,c	3–4
		28	...		3–4
			+ 0·84		
12	F	22†	+ 0·12		3–2
		23	+ 0·02		3–4
		27	...		...
			+ 0·07		
16	C	27	− 0·78		...
18	C	24	− 0·16		...
		26	− 0·25		3
		27	+ 0·55		3
		28	+ 1·01		3–4
		31	− 0·72		...
			+ 0·09		
19	M	26	+ 0·90	*f*	2–3
		27	− 0·68	*f*	3
		28	+ 1·21		3–4
		29	− 0·02		2–3
		31	+ 0·46		...
			+ 0·37		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1886.			"		
Aug. 20	F	23	+ 0·71		...
		24	...		...
		27	+ 0·16		3
		31	+ 0·34		3–4
			+ 0·40		
31	C	31	+ 2·27	s	4–3
		32	...		...
Sept. 1		38	− 0·82	s	4–3
			+ 0·73		
3	M	29	− 0·37		3
		31	− 0·52		2–3
		32	(+ 2·71)	*h*	3–4
			− 0·45		
7	P	31	+ 0·39		2
		32	+ 1·44	*f*	2
8		36	− 0·58		...
		37	+ 1·70		...
			+ 0·74		
9	M	27	...		2–3
		31	+ 0·41		2–3
		32	− 0·98	F	2–3
10		36	− 0·67	*f*	2–3
		37	+ 0·91	F	3
		38	− 0·69		3
			− 0·20		
17	C	32	+ 1·26		3–4
18		38	+ 0·15		3–4
			+ 0·71		
19	P	31	+ 0·91		3
		32	+ 0·93		3
20		38	+ 0·33		3–4
			+ 0·72		
20	M	31	+ 0·37	*f*,c	3
		32	+ 0·79	F	2–3
21		38	+ 0·58	F,c	...
		41	+ 1·16		3–4
		42	− 0·65	*d*	3–4
			+ 0·45		
21	C	32	+ 1·78		3–4
22		38	...	F	...
			+ 1·78		
25	M	41	− 0·10		3
		42	− 0·02		3
			− 0·06		
26	M	31	+ 0·06		3
		32	+ 0·99		3
27		38	(+ 2·91)	F	3–4
		41	− 0·39		3–4
		42	+ 1·39		3–4
		43	+ 0·53		2–3
			+ 0·52		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1886.			″		
Sept. 27	P	32	+ 2·08		3–2
28		41	+ 1·30		3
		42	+ 1·04		4–3
			+ **1·47**		
28	M	32	+ 1·07		3
29		41	+ 1·87	F	3–4
		42	+ 1·87	*f*,*d*	3–4
			+ **1·60**		
29	C	32	+ 1·86		3–4
30		42	+ 0·55		...
			+ **1·21**		
Oct. 4	C	41	+ 1·04	*f*	3–4
4	P	32	+ 0·39		3–4
5		41	+ 1·58		...
		42	+ 1·23		3–4
			+ **1·07**		
6	C	41	− 0·53		...
		43	+ 0·60		...
			+ **0·04**		
7	M	42	+ 0·77		3
10	M	35	...	F	...
11		42	+ 2·40	*d*	3–4
			+ **2·40**		
12	C	50	+ 1·40		...
19	M	65	+ 0·73		3–4
		67	− 1·00		3–4
		68	+ 0·17		3–4
		2	+ 0·30		2–3
			+ **0·05**		
19	C	35	+ 1·34		3
20		50	− 0·31		3
			+ **0·51**		
21	C	36	+ 0·97		...
		38	+ 0·60		...
		41	...	F	...
22		50	+ 0·64		...
			+ **0·74**		
22	M	35	− 0·56	*f*,c	3
		36	+ 0·77	F,c	3–4
23		42	(+ 3·10)		3
			+ **0·11**		
26	M	35	(+ 4·14)	*f*	...
27		50	+ 1·08	*f*,*d*,c	3–4
			+ **1·08**		
29	C	38	+ 0·75		3–4
		41	+ 1·06	c	3
			+ **0·91**		
31	C	36	+ 0·90	*f*	3–4
		38	(+ 2·37)		4
Nov. 1		50	+ 0·67		...
			+ **0·79**		
Nov. 2	C	36	+ 0·87		3–4
		38	...	s	3–4
		41	+ 1·41		...
3		50	+ 1·36		...
			+ **1·21**		
5	M	37	(+ 3·13)	*f*	3
		41	− 0·71		3
		42	+ 0·10		3
6		50	+ 0·30		3
			− **0·10**		
7	M	37	+ 1·57	*f*,h	3–4
		38	+ 1·58	*f*	3–4
		42	+ 1·10	*d*	3–4
			+ **1·42**		
8	C	37	+ 0·49		3–4
		38	+ 0·48		3–4
		41	+ 0·02		3–4
9		50	+ 1·34		3–4
			+ **0·58**		
11	M	41	− 0·44		3
		42	− 0·40		3–4
12		50	+ 0·07		3–4
		52	(+ 2·65)	F	3–4
			− **0·26**		
12	C	38	− 1·06		3–4
		41	− 0·12		...
		42	− 0·02		...
13		50	− 1·23		3–4
			− **0·61**		
14	C	41	+ 0·75		3–4
15		50	+ 0·20		...
			+ **0·48**		
15	M	42	+ 0·69	*d*	3–4
16		50	+ 0·45	s	3–4
		54	− 0·09	F	...
			+ **0·35**		
16	C	41	+ 0·11		3–4
		42	+ 1·34		4–3
17		50	+ 0·14		...
			+ **0·53**		
21	F	41	+ 1·79		3–4
		42	+ 1·54		...
22		50	...	*f*	...
			+ **1·67**		
22	C	41	+ 0·31		3–4
		42	+ 2·04		3–4
23		50	+ 0·07	*f*	4–3
			+ **0·81**		
23	M	41	+ 0·18	*d*	3–4
25	M	41	+ 1·01	*h*	4–3
		42	+ 0·64		3–4
			+ **0·83**		
Nov. 26	C	42	+ 0·52		...
28	M	42	− 0·22	*d*	3–4
29	C	42	...		4
30	F	42	+ 0·66		3–4
		43	...	*f*	...
			+ **0·66**		
Dec. 1	C	42	+ 0·43		3–4
		43	...	*f*	...
			+ **0·43**		
2	M	42	+ 1·79		3–4
5	P	42	+ 0·57		2–3
		43	+ 1·40	*f*	2
6		62	+ 0·81		3
			+ **0·93**		
6	C	42	+ 2·18		4–3
		43	...		...
7		62	+ 1·01		4–3
			+ **1·60**		
7	M	42	+ 0·84		3
		43	+ 1·35	*f*	2–3
		44	+ 1·47	F	3
		50	+ 0·38		3
8		62	− 0·77		3
			+ **0·65**		
10	C	43	+ 0·05		3
		44	...	*f*	...
		50	− 0·05		3–2
			0·00		
12	M	43	(+ 2·26)	*f*	3
		50	(− 1·27)	*f*,*d*	3–4
13		62	− 0·88		4–3
			− **0·88**		
14	M	44	(+ 2·52)	F	3–4
		46	...		...
		50	+ 0·69		3–4
15		62	(− 2·45)	F	4–3
			+ **0·69**		
15	C	50	(− 2·63)	s	3–4
16		62	+ 0·77		4–3
			+ **0·77**		
16	M	44	(+ 2·60)	*f*	3–4
		50	+ 0·77		3–4
			+ **0·77**		
20	C	62	...	F	3–4
20	M	44	+ 0·37		2
		50	− 0·29		3
			+ **0·04**		
22	F	50	+ 0·70		3

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1886.			″		
Dec. 23	C	46	+ 0·34	*f*	...
		48	...	s	...
		50	− 0·73		3
		62	+ 1·01		3
			+ 0·21		
27	C	50	+ 0·18	*p*	3–4
28		62	...	*f*	3–4
			+ 0·18		
28	P	46	− 0·24		2–3
		48	+ 0·24	*f*	3
		50	+ 0·98		3
29		62	+ 0·19		3
			+ 0·29		
1887.					
Jan. 5	M	50	+ 0·62		3
		51	+ 1·20		2–3
		52	+ 1·84	*f*	3–4
		54	+ 1·59	F	3–4
6		65	...	F	3–4
		66	− 1·43		3
			+ 0·76		
6	C	50	− 0·57		3
		51	− 0·21		2–3
7		62	− 1·32		3–4
			− 0·70		
7	P	50	+ 0·11		3
		51	...	f	2–3
			+ 0·11		
10	C	51	+ 0·40		3
		54	...		3
			+ 0·40		
11	F	54	...	F	...
12		62	+ 1·99		3–4
		65	+ 1·96	*f*	...
			+ 1·98		
13	P	62*	+ 0·22		4–3
13	M	52	− 0·07	*f*	3–4
		53	(− 4·13)	F	4–3
		54	− 0·40	*d*	3–4
			− 0·24		
14	C	53	+ 0·33	*f*	...
		54	− 0·92		3–4
			− 0·30		
17	M	52	+ 1·50		3
		53	+ 0·44		3
		54	+ 0·86		3–4
		55	+ 2·24		3
18		71	− 0·20	d	3–4
			+ 0·97		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1887.			″		
Jan. 18	C	52	...		3–4
		54	− 0·44		3–4
			− 0·44		
21	C	71	+ 1·14	*f*	3–4
26	P	55	− 0·83		2–3
28	C	56	...	*f*	...
		57	+ 0·74	*f*	...
		62	+ 1·13		3–4
			+ 0·94		
30	F	57	− 0·27		3
		62	− 0·83		3
31		71	+ 0·35		3–4
			− 0·25		
	C	56	+ 1·60	*f*	...
		57	− 0·16		...
		62	+ 1·01		3–4
			+ 0·82		
Feb. 1	M	56	+ 2·12	F	3–4
		57	− 1·35	*f*	3–4
		62	(+ 2·69)	*f*,*d*	3–4
			+ 0·39		
2	C	57	+ 0·90	*f*	2–3
		62	+ 0·17		3–4
			+ 0·54		
3	P	56	+ 1·13		2–3
		62	+ 0·73		3–4
			+ 0·93		
6	M	57	+ 0·23		3
		62	+ 1·38	*d*	3–4
7		71	+ 1·16	*d*	3–4
			+ 0·92		
7	P	56	+ 1·13	*f*	2–3
		57	− 0·79		2–3
		62	+ 0·14		3
			+ 0·16		
8	M	57	+ 0·24		3
		58	− 0·72		3–4
		62	+ 0·46		3
9		71	+ 0·34		3–4
			+ 0·08		
9	F	62	− 0·20		3
10		71	− 1·06		4–3
			− 0·63		
14	C	60	+ 1·30	f	3
		61	− 1·04	f	3–4
15		71	− 0·73	f	3–4
			− 0·16		
16	F	62	...		4–3
17		71	...	f	4–3

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1887.			″		
Feb. 17	M	60	+ 0·35	F	3–4
		62	+ 0·45		3–4
18		71	+ 1·08	F	4–3
		3	(− 1·65)	F	3–4
			+ 0·63		
18	C	61	+ 0·52		3–4
		62	+ 0·04		3–4
19		72	...	s	...
			+ 0·28		
21	C	71	...	c	...
23	M	61	+ 0·55		3–4
		62	+ 0·89		3–4
		63	...	*f*	3–4
24		71	+ 1·17		3
		3	+ 1·14		3–4
			+ 0·94		
24	C	61	+ 0·20	*f*	...
		62	− 0·65		...
25		71	+ 1·58		3–4
		3	− 0·44		3–4
			+ 0·17		
25	F	61	...	f	2–3
		62	− 0·60		3
		63	...	*f*	...
26		71	...	*f*	...
			− 0·60		
27	M	61	+ 0·29		3
		62	− 0·14		3–4
28		71	(+ 2·42)		...
		3	+ 1·43	F	3–4
			+ 0·53		
Mar. 2	F	63	...	f	3
		66	...	*f*,*u*	...
3		3	+ 0·51		3
			+ 0·51		
4	C	66	...	*f*,c	...
		71	...	c	...
6	P	63	...	*f*	3–2
		71	+ 0·58		3
7		3	+ 0·88		4–3
			+ 0·73		
8	C	66	+ 0·27		...
		71	+ 0·97		...
9		3	− 0·48		3–4
			+ 0·25		
9	M	66	− 0·45	d	3–4
		71	+ 0·83		3
			+ 0·19		
10	C	66	...		...
		71	+ 0·41		3–4
			+ 0·41		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1887.			″		
Mar. 13	F	63	...	f	...
		66	...	*f*	3-4
		71	− 0·07		3-4
			− **0·07**		
15	M	65	+ 0·42		3
		66	− 0·26		3
		68	− 0·16		3-4
		71	− 0·09		3-4
16		3	− 0·24	*f*	3
			− **0·07**		
20	C	71	...	F,D	...
21	M	66	− 0·89	F,c	3
		71	+ 1·89	c	3
22		3	+ 0·52	c	3-4
			+ **0·51**		
22	M	65	+ 2·17		...
		66	...	F	3-4
		71	+ 1·00		3
			+ **1·59**		
25	F	65	+ 1·55		2-3
		66	+ 0·62		3-2
		71	+ 0·61		3-2
26		3	+ 0·61	f	3-4
			+ **0·85**		
27	M	66	− 1·47		3
		71	− 0·15		3
			− **0·81**		
28	C	66	+ 0·03		2
		71	+ 0·82		...
29		5	...		...
			+ **0·43**		
29	P	66	+ 1·18		2-3
		71	+ 1·17		2-3
30		8	...		3
			+ **1·18**		
Apr. 3	C	71	+ 0·50		3-4
4		8	+ 2·01		2
			+ **1·26**		
4	M	68	− 0·19		3
		71	− 0·30		3
		72	+ 2·19	f	3
		3	+ 0·33		3
			+ **0·51**		
6	M	71	+ 0·31		3-4
		3	+ 0·35	F,c	3-4
			+ **0·33**		
8	P	71	+ 0·26		3
		3	+ 0·53		2-3
9		8	...	*f*	...
			+ **0·40**		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1887.			″		
Apr. 11	P	71	+ 0·25		2-3
		72	+ 0·89	f	2-3
		3	+ 0·55		3-2
			+ **0·56**		
13	C	71	+ 0·67	...	
		72	+ 0·05	...	
		3	+ 0·36	...	
			+ **0·36**		
15	F	71	+ 0·70	...	
		3	− 0·48	...	
			+ **0·11**		
19	C	3	+ 0·48	c	3
20		10	+ 0·03		3
		11	+ 0·85	...	
			+ **0·45**		
21	C	1	...	s	...
		3	+ 0·93	...	
22		10	+ 0·84	...	
		11	+ 1·12		3-4
			+ **0·96**		
22	M	3	+ 0·88		2-3
24	M	1	+ 1·61	*f*	2-3
		3	+ 1·07		2-3
		4	− 0·53	F	...
25		13	+ 0·07		3-4
			+ **0·55**		
27	F	1	...	*f*	3-2
		3	+ 0·62		3-2
28		10	+ 0·55		3-2
		11	+ 2·18		...
			+ **1·12**		
28	M	1	+ 0·40	F	...
		3	+ 0·52		2-3
29		10	− 0·28		2-3
		13	+ 1·54		3-2
			+ **0·55**		
29	C	1	...		2
		2	...		2
30		13	...		3
			+ **0·90**		
May 2	M	1	+ 0·30		2
		2	+ 0·19		2
		3	+ 0·76		2
3		10	− 0·19		2
			+ **0·27**		
4	F	3	...	c	...

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1887.			″		
May 8	M	3	+ 0·88		3
9		11	+ 0·99		3
		13	+ 0·52	d	3
		15	(− 2·73)		3
		16	+ 0·43		2
			+ **0·71**		
9	C	3	+ 0·99		3
		4	− 1·94	s	...
10		13	− 0·11		3
		15	(− 9·07)		3
			− **0·35**		
10	M	3	+ 0·99		3
		4	+ 1·26		3
11		11	− 0·21		3
		15	+ 1·06		3
		16	+ 1·20		3
		17	+ 0·59		3
			+ **0·82**		
11	C	3	+ 0·22		2
		4	− 1·29		2
12		13	+ 1·12		2-3
		15	+ 0·56		2-3
		16	+ 0·47		2
			+ **0·22**		
12	M	3	+ 2·33	c	3-4
		4	− 1·35		3
13		13	+ 0·76		3
		16	+ 0·92		2-3
		17	+ 0·63		2-3
			+ **0·66**		
13	F	3	+ 0·75		3-4
14		11	...	*f*	...
			+ **0·75**		
15	F	3	+ 0·05		1-2
		4	− 0·35		2
16		11	+ 0·94	f	2
		13	...		2
		16	− 0·35		2
			+ **0·07**		
19	C	4	+ 0·17		2
		5	...	*f*	3
20		11	+ 0·57	*f*,c	3
		16	+ 1·53		2
			+ **0·76**		
20	M	4	− 0·61	*f*,*d*	3
		5	+ 0·93	*f*	2
21		11	+ 2·62	*f*,h	2
			+ **0·98**		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1887.			"		
May 24	M	4	+ 0·43	m	2
		5	+ 0·65		2
		8	− 1·08		2
25		13	+ 0·93		2
		16	...		2
		17	− 0·44		2–3
			+ 0·10		
26	M	5	+ 0·45		1–2
		8	− 0·41		1–2
27		13	− 0·20		2
		16	− 0·06		2
		17	+ 0·14		2
			− 0·02		
27	C	5	− 0·24		2–3
		8	− 0·36		2
28		13	+ 0·42		3
			− 0·06		
30	M	5	+ 1·67		1–2
		8	(− 2·75)	m	1–2
31		13	+ 0·75		1–2
		16	+ 0·37		1–2
		17	(− 2·85)		2
		26	+ 1·97		2
			+ 1·19		
June 2	C	5	+ 0·22		3
		8	− 0·87		3
		9	− 0·90	*f*	3
3		16	+ 0·17		2
		17	− 0·32		2
		26	− 0·45		2
			− 0·36		
3	P	5	+ 1·01		2
		8	+ 1·19		2
		9	+ 0·25		2
4		27	+ 0·38		2–3
			+ 0·71		
5	M	6	+ 0·91		2
		8	− 0·17		1–2
		10	(− 3·16)	m	3–4
6		13	− 0·29		2
		16	+ 0·79		2
		27	− 0·29		2
			+ 0·19		
6	C	11	...	*f*	...
7		16	+ 0·78		3
		17	+ 0·32		3
		27	+ 0·70		3
		28	− 0·72		3–4
			+ 0·27		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1887.			"		
June 7	M	10	+ 0·47		3–4
		11	(+ 2·83)		4–3
8		17	+ 0·95		3–4
		27	− 0·59		3
		28	− 0·61		3
			+ 0·06		
8	C	10	− 0·20		2–3
		11	+ 0·14		3
9		27	0·00		2–3
		28	− 0·22		3
			− 0·07		
9	P	8	+ 1·99		2–3
		9	+ 0·91		3–2
		11	+ 1·86		2–3
10		19	(+ 3·98)		3
		28	+ 2·63		3
			+ 1·85		
12	C	8	− 0·19		2
		9	− 0·04		2–3
13		19	+ 0·63		2–3
		22†	+ 0·02		2–3
		28	+ 0·12		2–3
			+ 0·11		
13	M	8	(+ 3·50)	F,c	2
		9	− 0·17		2
		11	+ 0·19		2
		13	− 0·41		2
14		22†	+ 0·55		2
		29	+ 0·24		2
			+ 0·06		
15	F	11	+ 1·98		3–2
16		19	− 1·70		3–2
		22†	− 1·28		3–2
		27	− 0·10		3–2
		28	+ 0·09		3–4
			− 0·20		
16	C	8	+ 0·43		2
		9	− 0·74		2
		11	+ 0·50		2–3
17		28	− 0·19		3
		29	+ 0·03		3
			+ 0·01		
17	M	8	+ 0·11		2
		9	+ 1·20		2
		11	+ 1·68	*f*,c	3
		13	+ 1·00		2–3
18		22†	+ 1·11		3
			+ 1·00		
20	C	22†	+ 0·20		2–3
		23	+ 0·96		2–3
		29	+ 0·75		2–3
			+ 0·64		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1887.			"		
June 21	M	9	(− 3·20)	F	2
		10	+ 0·76		2–3
		13	− 0·52		3
		19	+ 1·04		3
22		22†	+ 2·07		3
		29	+ 0·10		2–3
			+ 0·69		
22	F	11	+ 0·03	f	2–3
		13	+ 0·88		2
23		22†	− 0·02	c	2–3
			+ 0·30		
24	M	9	− 0·07		2
		10	+ 0·07		2
		11	+ 1·44		3
		13	+ 2·49		3
25		22†	+ 1·42		2–3
		23	+ 2·79		3
			+ 1·36		
26	F	13	+ 0·93		1–2
		19	+ 0·75		1–2
27		31	+ 0·57		2
			+ 0·75		
28	M	10	+ 0·05		2–3
		11	+ 0·36		3
		13	− 0·78		3
		19	+ 0·19		2
29		22†	− 0·17		3
		23	+ 0·52		2–3
		31	+ 0·16		2
			+ 0·05		
29	C	10	− 0·06		2
		11	− 0·02		3
		13	− 0·95		3
		19	+ 0·40		3
30		23	(− 5·71)		3
		31	+ 0·83		3
			+ 0·04		
July 3	P	13	+ 0·73		2–3
		16	...		2–3
4		27	+ 1·43		2–3
		28	+ 2·67		3
		31	+ 0·71		2–3
			+ 1·39		
4	M	11	+ 0·86		2
		13	+ 1·21		2
		16	+ 0·51		2
		19	+ 0·35		2–3
5		27	+ 0·59		3
		31	+ 0·56		2
			+ 0·68		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1887.			"		
July 12	P	15	+ 0·21		2
		16	+ 0·40		2
13		32	− 1·11		2
			− 0·17		
13	F	11	+ 1·77		2
		13	+ 1·13		2–3
		16	− 0·03	f	3–4
		19	+ 0·81		3
			+ 0·92		
17	C	19	...		3
18		31	+ 1·08		3
		32	− 0·13		3
			+ 0·48		
18	P	13	+ 0·88		2
		19	+ 0·24		2
19		29	+ 0·64		2
		31	+ 0·68		2
			+ 0·61		
20	M	13	− 0·50	*f*,c	...
		17	+ 0·54		2
		19	+ 0·36	*f*,c	2
21		32	− 0·39		2
			0·00		
24	M	16	+ 0·39		2–3
		17	+ 0·71		2
		19	+ 1·32		2–3
		27	+ 0·52		3
25		31	+ 0·84		3
		33	− 0·07		3
			+ 0·62		
25	C	16	+ 1·07		...
		17	+ 0·46		...
		27	+ 0·41		2
26		33	− 0·22		3
			+ 0·43		
31	F	19	+ 0·10		2–3
		21	+ 0·72		2–3
		22†	+ 0·03		2
		23	− 0·22		3
Aug. 1		32	...		3–4
		33	...	f	3–4
			+ 0·16		
2	M	31	− 0·87		3
2	C	21	+ 1·67		2–3
		22†	+ 0·92		2–3
		23	+ 0·68		2–3
		27	+ 0·36		2–3
3		31	+ 0·84		...
		33	+ 0·55	*f*	...
			+ 0·84		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1887.			"		
Aug. 5	P	21	+ 1·50		3
		23	− 0·57		3–4
		27	+ 0·06		3
6		31	0·00		3
		32	+ 0·95		3
			+ 0·39		
7	M	21	+ 0·12		2–3
		22†	− 0·19		3
		23	+ 1·17		3
		27	− 0·25		2–3
8		32	+ 1·06		2
		34	+ 0·82		2
		35	+ 1·22		2–3
			+ 0·56		
9	M	21	+ 0·69		2
		22†	+ 1·05		2
		23	+ 1·18		2
		27	+ 0·86		2–3
10		32	+ 0·21	F	...
		36	− 0·56		2–3
			+ 0·57		
10	C	22†	− 0·27	c	3
		27	− 0·26	f	3
			− 0·27		
14	C	23	+ 0·13		2
		27	− 0·19		2
		28	+ 0·74		2
		29	− 0·08		2–3
15		35	− 0·02		2–3
		36	− 0·45		2
			+ 0·02		
15	M	27	+ 0·78		2–3
18	C	31	...	*f*	...
19		36	...		2
19	F	27	...	F	3–4
		28	− 0·15		3–4
20		36	...		3
			− 0·15		
21	M	27	+ 0·07		3
		29	+ 0·18	*f*	3
22		36	+ 1·54	*f*	3–4
		38	(− 1·29)	F	3–4
			+ 0·60		
22	C	27	+ 0·56		3–4
		28	+ 0·38		3–4
		31	− 0·12		3–4
23		35	+ 0·44		3
		37	+ 0·75		2–3
			+ 0·40		
28	F	29	+ 1·17		2

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1887.			"		
Aug. 29	M	31	− 0·78	F,c	3
30	C	29	− 0·32		2
		31	− 0·26		3
			− 0·29		
31	F	29	+ 0·27		3–4
		31	...	*f*	...
Sept. 1		38	− 0·74		3–4
			− 0·24		
1	C	29	+ 0·29		2–3
		31	+ 0·34	*f*	3
2		38	...		3–4
			+ 0·32		
4	M	29	− 0·40	*f*	2
		31	+ 0·35		2–3
5		38	+ 0·47		2–3
		41	+ 0·43		2–3
			+ 0·21		
5	F	29	+ 0·17		3
		31	+ 0·01		3–2
		32	− 0·35		...
6		38	− 1·02		2–3
		41	− 0·53		...
			− 0·34		
6	C	31	− 0·29		3
		32	(− 3·32)	*f*	3
7		38	− 1·55	*f*	3
		41	− 0·99		2
			− 0·94		
13	F	31	+ 0·13		3–2
		32	+ 0·22		3–4
14		38	− 0·34		3
			0·00		
15	M	38	...	c	...
		42	+ 1·05		3–4
			+ 1·05		
16	F	31	+ 0·06		3–2
		32	...		3–4
17		38	− 0·14		...
			− 0·04		
19	C	32	+ 0·30		3–4
20		38	− 1·30		3
		41	− 0·34		3
		42	...	c	...
			− 0·45		
20	M	31	+ 1·30		2–3
		32	− 0·67		3
21		41	+ 1·25		2–3
		42	+ 0·56		3
		43	+ 0·71		3
			+ 0·63		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1887.			"		
Sept. 21	F	31	...	u	3
		32	...		4–3
22		41	+ 0·97		3–4
			+ 0·97		
22	M	31	+ 0·63		3
		32	+ 0·18		3
23		41	+ 1·58	*f*,c	3
		42	+ 1·78		3
		43	+ 0·93		2–3
			+ 1·02		
23	C	32	− 0·81		3–4
24		41	− 0·25		3–4
			− 0·53		
26	F	31	− 0·02		2–3
		32	+ 0·75		3–4
27		41	− 0·47		3–4
		42	...		4–3
			+ 0·09		
27	M	32	+ 1·21		2–3
28		41	+ 0·85	*f*,h	3
		43	+ 0·29	f,c	3
		44	+ 0·55	*f*,h	3
			+ 0·73		
30	M	32	+ 0·67		3
Oct. 1		41	+ 0·52		2–3
			+ 0·60		
3	M	41	+ 0·62	*f*	2–3
		42	+ 2·22		3–4
		43	− 0·98	F	...
		46	− 0·08		3
			+ 0·45		
5	M	41	+ 0·34	*f*,c	3
		42	+ 1·32		3
			+ 0·83		
6	C	41	...	F	3–4
		43	+ 0·25	*f*	3
			+ 0·25		
9	C	35	+ 1·77	*f*	3–4
		36	− 0·91	*f*	3
10		42	− 0·05		3–4
		44	(− 2·37)	*f*,*d*	3–4
			+ 0·27		
11	C	33	− 0·83	*f*	3–4
		35	+ 0·66		3
12		42	+ 0·71		3–4
		46	− 0·97		3–4
			− 0·14		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1887.			"		
Oct. 12	M	36	+ 0·34	*f*	...
		38	+ 0·16	F	...
13		42	+ 0·89		3–4
		43	+ 1·84	F	2–3
		46	− 0·91	F	3
			+ 0·46		
13	C	36	− 0·81	*f*	3
14		42	− 2·15		3–4
			− 1·48		
16	M	33	+ 0·28		2
		35	+ 1·32	*f*	2
		36	+ 0·63	F	...
			+ 0·74		
19	C	33	+ 0·05	*f*,*d*	3–4
		36	− 1·53	f	3
		38	(− 5·22)	f	3
20		43	+ 0·19	*f*	3–4
		44	− 0·03	*f*	3–4
			− 0·33		
20	M	35	+ 1·90	F,D	4–3
21		48	+ 2·28		2–3
		49	+ 2·15	*u*	3–4
		50	− 0·42		3
			+ 1·48		
24	M	38	+ 0·87	*f*	...
		41	+ 2·01		3
25		42	− 0·05		3
		52	− 0·17		2–3
			+ 0·67		
25	C	38	...	*f*	3–4
		41	...	*f*	3–4
26		44	+ 0·62	F	3–4
		50	− 0·56		3–4
			+ 0·03		
26	M	38	+ 0·89	F,h	..
27	C	38	...	*f*,c	...
		41	...	*f*	3–4
28		50	+ 0·12		3
		51	+ 0·27		3
			+ 0·20		
28	M	35	+ 1·42		3–4
		36	− 1·13	F,c	...
		37	− 1·31	c	...
		38	− 0·56	c	...
		41	+ 0·33	*d*	...
			− 0·25		
31	C	38	...	c	...
		41	+ 0·40	*f*	3–4
Nov. 1		50	+ 1·30		3–4
		51	− 1·96		3
			− 0·09		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1887.			"		
Nov. 2	C	36	− 0·37		3
		37	...		3
		38	− 1·31		3
		41	− 0·75		3
3		52	+ 0·39		3
			− 0·51		
3	M	36	(+ 3·61)		3–4
		38	+ 1·35		3
		41	+ 1·03		3–4
		42	+ 0·50		3–4
4		48	...	F	...
		50	+ 0·91		3
			+ 0·95		
4	C	36	(− 2·20)	*f*	3–4
		38	+ 0·10		3–4
		41	− 0·44		3–4
5		48	− 0·09		3
			− 0·14		
6	C	37	+ 0·79		3
		38	− 1·85		3–4
		41	+ 0·29		3–4
7		48	− 0·15	*f*	3
			− 0·23		
7	M	37	+ 0·35	F	3–4
		41	+ 0·39		3
		42	+ 1·02		3
8		50	+ 0·51		3
			+ 0·57		
9	M	41	+ 1·02		3
		42	+ 0·44		3
			+ 0·73		
12	M	50	...		..
13	M	38	− 0·69		2
		41	+ 0·09		2
		42	+ 0·57		3
14		50	− 1·02		3–4
			− 0·26		
14	C	39	− 0·27		3
		40	− 0·13		3–4
		41	+ 0·18		3
15		50	− 0·34		3
			− 0·14		
15	M	39	...	*f*	...
		40	+ 0·69		3–4
		41	+ 2·03		3
		42	− 1·44		3–4
16		50	+ 0·36		3
		52	− 0·05		3–4
			+ 0·32		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
			"		
1887.					
Nov. 16	C	41	...	F	3
		42	+ 1·29		3-4
17		50	+ 0·08		3
			+ 0·69		
18	C	41	− 0·18		3
		42	− 1·16		3-4
19		50	...	f	3-4
			− 0·67		
20	C	41	− 0·44		3-4
		42	+ 1·16		3-4
21		50	+ 0·10		3-4
			+ 0·27		
21	M	41	+ 2·91		3
		42	+ 0·70		3-4
22		50	+ 2·02		3
			+ 1·88		
22	C	41	+ 0·99		3
		42	+ 3·16		3-4
23		50	− 0·68		3
			+ 1·16		
23	M	42	+ 1·70		3
24		54	...	F	...
			+ 1·70		
25	M	38	− 0·21		3
		41	+ 1·17		3
		42	+ 1·11		3-4
26		54	+ 1·13	F	...
			+ 0·80		
27	M	38	+ 1·12	F,c	2
		41	+ 1·36		2-3
		42	+ 1·07		3
		44	(− 2·81)	F	3
			+ 1·18		
29	C	54	− 2·44	F	3-4
		56	...	F	...
			− 2·44		
29	M	42	+ 2·08		3
		46	− 0·61	F	3
30		54	+ 0·36	f	3
			+ 0·61		
Dec. 1	M	42	+ 0·18		3
		43	(− 4·32)		3
		46	+ 1·55	F	3-4
			+ 0·87		
2	C	42	+ 0·54		3
		43	− 0·01		2-3
		44	− 1·39		3-4
			− 0·29		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
			"		
1887.					
Dec. 5	M	42	+ 1·30		3-4
		43	+ 2·53	F	3
		44	...	F	...
6		62	− 0·76		3-4
			+ 1·02		
6	C	42	+ 0·97	c	3-4
		43	+ 0·42	f	3
		44	...		...
		50	+ 0·09	f	3
			+ 0·49		
8	C	42	...		3-4
		44	+ 0·01	f	3-4
		50	+ 0·26		...
			+ 0·14		
9	M	41	+ 1·27		2-3
		42	+ 0·97		2-3
		43	(+ 2·73)	f,d	3-4
		44	+ 0·51	f,d	3-4
		48	+ 1·74	F	3-4
		50	...		3-4
			+ 1·12		
11	M	43	− 0·29		3
		44	+ 1·38		3
		50	+ 1·25		3
12		62	− 2·03		3
			+ 0·08		
12	C	43	− 2·33		3-4
		50	+ 0·54		3
13		62	+ 0·21		3-4
			− 0·53		
13	M	50	(+ 3·82)		4-3
14		62	...		4-3
14	C	43	...	F	3-4
		50	+ 0·65		3-4
		62	...		3-4
			+ 0·65		
15	M	43	− 0·38		2-3
		44	+ 0·83		2-3
		50	+ 1·05		2-3
16		62	...	F	...
			+ 0·50		
16	C	44	+ 0·17		2-3
		48	+ 0·27		3
		50	...		3
			+ 0·22		
20	C	44	+ 0·31	c	2-3
		46	...	F	3-4
		48	+ 0·20		3
		50	+ 0·25		3-4
21		62	− 0·71		...
			+ 0·01		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
			"		
1887.					
Dec. 21	M	50	+ 0·26		3-4
22	C	50	− 0·21		3-4
23		62	− 0·07		3-4
			− 0·14		
23	M	50	− 0·56		3-4
27	M	50	− 0·35		3-4
28		62	...		4-3
			− 0·35		
29	M	46	− 0·53	f	3
		48	+ 0·84	F	3
			+ 0·16		
1888.					
Jan. 3	C	48	+ 0·07		3
		49	+ 0·07		3
		50	+ 0·69		3
4		62	...	c	3-4
			+ 0·28		
4	M	48	+ 0·08		3
		49	+ 0·40		3
		50	+ 0·99		3-2
		54	...	F	...
			+ 0·49		
5	C	49	+ 0·09		3-4
		50	− 0·20		3-4
		51	+ 2·10		3-4
		54	+ 1·42		3-4
6		65	...		3-4
			+ 0·85		
8	M	50	+ 0·98		3
		51	+ 0·82		3-2
		52	...		3
			+ 0·90		
9	C	51	+ 0·54		3-4
11	C	52	− 0·37	F	3-4
		54	+ 0·98		3
		55	− 0·21		3
12		66	+ 0·65		3
			+ 0·26		
12	M	52	+ 1·55		3
		54	− 2·20		3-4
		55	+ 2·81		3-4
13		66	− 1·84		3-4
			+ 0·08		
15	C	52	0·00		3
		54	+ 0·05	F	3-4
16		65	...		...
		66	− 1·33		3-4
			− 0·43		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1888.			′		
Jan. 16	M	52	+ 1·01		3
		54	+ 1·30	*f*,*d*	3–4
		55	+ 2·51		3
		58†	+ 1·52		...
			+ **1·59**		
17	C	52	+ 0·34		2–3
		54	− 0·62	*f*,*d*	3–4
		55	+ 1·92		2–3
18		66	...	F,c	...
			+ **0·55**		
18	M	54	+ 1·81	F,D	3–4
23	F	55	+ 0·52		...
		56	...	f	...
		62	...	F	...
24		71	+ 1·39		3
			+ **0·95**		
25	C	56	− 0·61	*f*	3
		62	+ 1·41		3–4
			+ **0·40**		
29	C	56	− 0·31		3
		58†	+ 0·98	F	...
		62	− 1·27		3
30		71	+ **0·66**		3
			+ **0·02**		
31	C	62	− 0·52		3
Feb. 1		71	+ 0·51		3
			− **0·01**		
1	M	58†	+ 1·40		...
		62	+ 1·22		3
			+ **1·31**		
2	F	56	...	f,c	...
3	M	52	− 0·49		2–3
		56	− 0·17		2–3
		58†	+ 1·14		...
		62	+ 0·15		3–4
			+ **0·16**		
5	P	62	+ 1·63		3
6		71	+ 0·84		3–2
		72	+ 2·55		3–2
			+ **1·67**		
8	C	61	...	F	3–4
		62	+ 0·55		3–4
9		71	− 0·81		3–4
			− **0·13**		
9	M	62	+ 0·74		3–4
10		71	− 1·34		3
			− **0·30**		
10	P	62	+ 0·49		3–4
11		71	− 0·10		4
			+ **0·20**		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1888.			″		
Feb. 12	C	60	...	s	...
		61	...	F	3
		62	+ 0·90		3
			+ **0·90**		
13	C	60	...		3
		61	+ 0·30		3
		62	+ 0·43		3–4
14		71	...	*f*	3–4
			+ **0·37**		
14	P	60	+ 0·87	f	2
		61	+ 0·70		2
		62	+ 0·72		3–2
15		71	+ 0·34		2–3
			+ **0·66**		
16	M	71	+ 0·59		3
		3	+ 0·89		3
			+ **0·74**		
19	M	61	+ 0·81		3
		62	+ 0·68		3
20		3	+ 0·39		2–3
			+ **0·63**		
20	C	61	− 0·10		3
		62	+ 1·19		3
		63	...	F	...
21		71	− 0·95	*f*	3–4
			+ **0·05**		
22	M	61	− 1·40	F	3
		62	− 0·21		3
23		71	+ 0·63		3
		3	+ 0·84	F	3–4
			− **0·04**		
23	C	61	+ 0·11		3
		62	+ 0·72		2–3
24		71	− 0·13		3
			+ **0·23**		
27	P	62	− 0·15		3
		63	...	f	2–3
28		3	+ 0·52		3–2
			+ **0·19**		
29	C	62	+ 1·44		2–3
		63	...		...
Mar. 1		3	− 0·24		3
			+ **0·60**		
2	P	3	+ 0·20		3–2
2	M	65	+ 1·62		2
		66	− 0·14		2–3
		71	− 0·38		2
			+ **0·37**		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1888.			″		
Mar. 6	M	66	+ 0·36	F	3
		71	− 1·33		2
7		5	− 0·23	*f*	3
			− **0·40**		
7	P	71	− 0·09		3–4
8	M	66	+ 1·03		3–4
		71	+ 0·01		2
9		3	+ 0·96		2
		5	− 0·13		2
			+ **0·47**		
9	C	66	+ 0·99		3
		71	− 0·76		3
			+ **0·12**		
11	C	65	...	F	...
		71	+ 1·16		3
12		3	+ 0·12		3
			+ **0·64**		
13	C	66	− 0·37		2–3
		71	− 0·26		3–4
14		3	+ 0·12		...
			− **0·17**		
14	M	65	− 0·04	F	2
		71	− 0·17		2–3
			− **0·11**		
15	P	71	+ 0·54		3–4
16	M	65	+ 0·47		2–3
		66	+ 1·67		3
		71	+ 0·23		2–3
		72	+ 1·24	F	2
17		3	+ 0·90		2
			+ **0·90**		
18	M	71	+ 0·54		2
19		3	+ 0·48		2
			+ **0·51**		
23	P	65	+ 0·20		2
		66	− 0·01		2–3
		68	+ 0·53		2–3
		71	+ 1·48		2–3
24		3	+ 0·98		2–3
			+ **0·64**		
25	P	71	− 0·63		3–4
26		3	+ 0·94		4–3
		8	+ 0·43		3
			+ **0·25**		
26	C	66	− 0·52		2–3
		68	− 0·47		3
27		5	− 0·03		3
		8	+ 1·28		3
			+ **0·07**		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1888.			″		
Mar. 27	M	66	+ 0·25		2
		68	− 0·33		2
		72	...	*f*	...
			− 0·04		
28	C	66	+ 0·59	F	3
		68	+ 0·45		2–3
29		8	+ 0·25		2–3
			+ 0·43		
Apr. 3	M	71	+ 0·93		2–3
		72	+ 1·09		2–3
		3	+ 1·21		2–3
4		8	− 0·71	*f*	2–3
			+ 0·63		
6	C	70	+ 0·90		1–2
		71	+ 0·39		2–3
		72	...	*f*	2–3
		3	...		3
			+ 0·65		
8	C	71	− 0·18		2
		72	+ 2·73	*f*	...
		3	+ 1·35		3
9		8	+ 0·15		3
			+ 1·01		
9	P	71	+ 0·21		2–3
		72	+ 1·30		3
		3	+ 2·31		2–3
			+ 1·27		
12	P	3	+ 0·76		2–3
15	M	71	+ 1·03		2–3
		72	+ 0·73		2
		3	+ 1·85		2–3
16		8	+ 0·44		2
		10	+ 2·19		2–3
		11	+ 0·94		3
			+ 1·19		
19	M	3	+ 0·68	*f*,c	2–3
20		10	+ 0·17		2
		11	− 0·26		2–3
			+ 0·20		
22	C	4	− 0·51	*f*	2–3
23		8	+ 0·85	*f*	3
		10	− 0·79		2–3
			− 0·15		
26	P	3	+ 0·71		2
27		11	+ 0·74		3
			+ 0·73		
27	M	1	...	*f*	...
		3	+ 0·67		2–3
			+ 0·67		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1888.			″		
May 3	M	1	...	*f*	...
		3	+ 0·66		2–3
4		13	+ 0·38		2–3
		16	+ 0·16		2
			+ 0·40		
7	M	3	− 0·35		2
		4	− 1·93		2
8		11	+ 0·93		2–3
		16	+ 0·05		2–3
			− 0·33		
8	P	3	+ 1·33		2
		4	+ 0·22		2
9		11	− 0·44		3
		16	− 0·48		2–3
			+ 0·11		
13	M	3	− 0·03	f,c	2
31	C	5	− 0·13		3
		8	− 0·74		2
June 1		13	− 0·44		2–3
		22†	+ 1·56		2
		23	+ 0·21		2–3
			+ 0·07		
6	C	7	− 0·11		...
		8	+ 0·67		2
		9	− 0·14		2
7		13	+ 0·05		2–3
		22†	+ 1·65		...
			+ 0·42		
7	M	6	+ 0·33	F	...
		7	+ 0·73		2
		8	+ 0·21		2–3
		9	− 0·78		2–3
8		16	+ 0·75		2
		17	+ 1·65		2
			+ 0·48		
11	P	7	− 0·27		2
		8	+ 0·48		2
		9	+ 0·50		2
		11	+ 0·29		2
12		19	+ 0·60		1–2
		23	0·00		2
			+ 0·27		
18	P	21	+ 0·39		2–3
		27	− 1·19		2–3
		28	+ 0·24		3
			− 0·19		
18	C	10	− 0·03		3–4
		11	+ 0·70		3
		13	+ 0·42		2–3
19		22†	+ 0·99		3
			+ 0·52		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1888.			″		
June 19	M	10	− 0·06		2–3
		11	+ 0·65		2–3
		13	+ 0·39		2–3
20		22†	+ 2·41		2–3
		28	− 0·08	*p*	3
			+ 0·50		
20	C	10	− 0·17		2–3
		11	− 0·05		3
		13	+ 0·76		2–3
21		29	− 0·23		2–3
			+ 0·08		
29	C	13	− 0·14		3–4
		19	+ 0·14		...
			0·00		
July 9	C	16	+ 1·12		3–4
		17	+ 0·60		3
		19	+ 0·86		3
			+ 0·86		
11	P	13	+ 0·06		2–3
		17	+ 0·68		2–3
		23	+ 0·87		2
12		31	+ 0·58		2
			+ 0·55		
12	M	13	+ 0·42		2
		16	+ 1·00		2–3
		17	+ 0·39		2–3
		19	+ 1·33		2
13		31	+ 0·70		2–3
			+ 0·77		
15	M	13	− 0·02		2
		16	+ 0·43		2–3
		17	+ 0·77		2
		19	+ 0·88		2–3
			+ 0·52		
16	P	13	+ 0·47		2
		16	+ 1·73		2
17		29	+ 0·05		2–3
			+ 0·75		
17	C	13	+ 0·53		1–2
		16	+ 1·02		1–2
		17	+ 0·07		2
		19	+ 0·48		2
		27	...		...
			+ 0·53		
19	C	13	− 0·47	c	2
		17	...		...
		27	− 0·38		3
			− 0·43		
22	C	13	+ 0·47		3
		17	+ 1·43		3
		27	+ 0·87		2–3
			+ 0·92		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1888.			″		
Aug. 2	P	22†	+ 1·85		2
		23	+ 0·33		2
		27	+ 0·14		2
			+ 0·77		
8	P	23	+ 0·34		2–3
		27	− 0·49		3–2
9		31	− 0·04		2–3
		32	+ 0·69		2–3
			+ 0·13		
9	C	22†	+ 1·67		3–2
		23	+ 1·16		3–2
		27	+ 0·75		3–2
10		32	+ 0·32		2–3
			+ 0·98		
12	M	22†	+ 1·32		2–3
		23	+ 0·37		2–3
		24	+ 0·31	F	...
		27	− 1·21		3–2
		28	+ 0·44		3–2
		31	+ 0·47		2–3
			+ 0·28		
13	C	29	− 0·10		3–2
		31	+ 0·14		2–3
			+ 0·02		
15	P	27	− 0·85		2–3
16	P	26	+ 1·05		2–3
		27	− 0·59		2–3
		28	+ 2·27		2–3
17		37	+ 0·92		2
		38	− 0·10		2
			+ 0·71		
17	C	26	...	F	3–4
		27	− 0·37	c	3–4
		29	− 0·46		3
		31	...	F,D	3–4
			− 0·42		
20	P	26	+ 1·24		2–3
		27	− 0·04		3
		28	+ 0·66		3
		31	− 0·46		3
		37	+ 0·66		2–3
		38	− 0·18		2
			+ 0·31		
21	C	27	− 1·09		2–3
		29	− 0·80		2–3
		31	− 0·12		3
22		37	− 0·93		2–3
		38	+ 0·09		2–3
			− 0·57		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1888.			″		
Aug. 24	M	27	− 1·23		2
		28	− 0·33		2–3
		29	+ 0·20		3–2
		31	− 0·08		4–3
			− 0·36		
30	M	29	+ 0·39		2
		31	+ 0·69		2
		32	+ 0·19	F,c	2–3
31		36	− 0·53		2
		37	+ 0·10		2–3
		38	+ 0·16		2–3
			+ 0·17		
31	C	29	− 0·64		2
		32	+ 2·03	F	3
Sept. 1		35	...	F	3
			+ 0·70		
3	P	31	+ 0·63		2–3
4		35	...	F	...
		42	...		3–2
			+ 0·63		
5	C	31	− 0·13		3
		32	...	F	2–3
			− 0·13		
12	C	31	+ 0·36		2–3
13		41	+ 0·62		3–2
		42	− 0·07		3
			+ 0·30		
14	M	31	+ 0·27		...
		32	+ 1·48		3–4
15		38	− 0·27		...
			+ 0·49		
16	P	31	+ 0·09		3–2
		32	+ 1·13		3–2
17		38	+ 1·16	F	...
		42	+ 1·33		...
			+ 0·93		
28	M	32	+ 0·63		2–3
29		41	+ 0·65		2–3
			+ 0·64		
Oct. 1	C	32	+ 1·09		3
		33	+ 0·94	F	3–4
2		41	+ 1·17		3
		42	+ 2·15		3–4
			+ 1·34		
3	P	41	+ 0·48		3–4
3	C	33	...	F	...
4		41	− 0·98		2–3
		44	...	F	3–4
			− 0·98		
4	M	33	− 1·07		2
		35	+ 0·09		2
			− 0·49		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1888.			″		
Oct. 8	M	33	− 0·69		3–2
		36	− 1·06		2–3
9		46	+ 0·23		2–3
			− 0·51		
12	C	34	...	F	...
		36	− 0·93		3
		37	...		...
		38	− 0·50		...
13		42	+ 0·78		3
			− 0·22		
15	P	33	− 0·50		3–4
		34	+ 0·70	F	4–3
		38	− 0·53	F	3
16		42	+ 0·76		3
			+ 0·11		
21	C	35	...	F,D	3–4
		36	...	F,D	3–4
22		50	− 0·32		3
		51	− 0·37		3
			− 0·35		
22	P	35	+ 2·50		3
		38	+ 0·80		3
23		42	+ 2·43		3–4
			+ 1·91		
29	C	36	+ 0·59		2–3
		37	− 0·56		2–3
		38	− 1·49		2–3
30		50	+ 0·63		3
		51	+ 0·41		3
			− 0·08		
30	M	36	+ 0·40		2–3
		38	− 0·01	*f*	2–3
		41	+ 3·52		3–2
			+ 1·30		
31	C	36	...	*f*	3
		38	− 0·56		3–4
		41	+ 1·26		3
Nov. 1		50	− 0·15	*f*,c	3–4
			+ 0·18		
7	M	38	− 1·08		3–2
		41	+ 0·21		2–3
		42	+ 1·60		2
8		50	− 1·01		3–2
		51	− 2·38		3–2
		54	− 0·46		3–2
			− 0·52		
11	M	41	+ 1·36		3
		42	+ 1·52		3–2
12		50	+ 1·13		2–3
		51	+ 0·54	*f*,c	...
		55	+ 1·19	*f*	3–2
			+ 1·15		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1888.			″		
Nov. 13	M	41	+ 0·36		3-4
14		50	− 1·21		3
			− 0·43		
16	C	41	...		...
		42	+ 0·54		3-4
			+ 0·54		
18	P	42	(+ 1·84)		4
19		50	− 0·05		2-3
		54	+ 0·60		3-4
			+ 0·28		
19	M	41	− 0·52		2-3
		42	+ 1·62		3-4
20		50	− 1·15		3-4
		54	+ 0·58	F,D	3-4
			+ 0·13		
22	C	41	− 0·21		3-4
		42	+ 2·10		3-4
			+ 0·95		
26	M	42	+ 0·45		3
		43	+ 1·48	F	3
27		54	− 1·27	F	3-4
			+ 0·22		
27	P	42	+ 0·55		2-3
28		54	...		...
			+ 0·55		
29	C	42	− 0·19		3-4
Dec. 4	M	42	+ 1·12		3
		43	− 0·13		3-2
		44	...	F,c	2
5		61	− 0·88		3
		62	+ 1·45		3
			+ 0·39		
5	C	43	...	F	...
6	P	43	...		3-4
		44	+ 0·53		3-4
7		62	...		4
			+ 0·53		
7	C	43	− 0·23		2-3
		44	− 0·02	*f*	3
		50	...	*f*	3-4
			− 0·13		
14	M	43	+ 0·44		2-3
		44	+ 1·54		3-4
		46	+ 0·61		3
		50	+ 0·65		3
15		62	+ 0·52		3
			+ 0·75		
19	C	44	...	F,D	...
		50	− 0·34		3-4
20		62	− 0·10		3-4
			− 0·22		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1888.			″		
Dec. 20	M	44	...	*f*	3
		46	− 0·23		3
		48	...		3
		50	+ 0·80		2-3
			+ 0·29		
30	C	48	+ 0·94		3
		49	− 1·01		3
		51	+ 0·50	*f*	3
31		65	...	F	3-4
			+ 0·14		
1889.					
Jan. 6	P	50	+ 0·23		2-3
7	C	50	+ 0·18		3
		51	...	*f*	3-4
8		68	− 0·76	*f*	3
			− 0·29		
9	C	51	− 0·18		3
		52	+ 0·74		3
		54	− 0·40		3
10		62	...	f	3-4
			+ 0·05		
10	P	51	+ 0·36		2-3
		52	+ 0·19		2-3
		54	+ 0·61		2-3
11		62	+ 0·23		3-4
		68	+ 1·42	f	3
			+ 0·56		
16	P	52	+ 0·67		3
		54	+ 1·14		3-4
		62	− 0·18		3-4
17		68	...		...
		71	+ 0·08		3
			+ 0·43		
17	C	52	+ 0·58		2-3
		54	+ 0·90		3
18		71	+ 0·26		3
			+ 0·58		
18	P	54	+ 0·24		2-3
		57	− 1·03	*f*	3-4
		62	+ 1·92		3-4
19		71	− 0·73		3
			+ 0·10		
22	P	54	+ 1·09		2-3
		57	− 0·28		...
		62	+ 1·25		...
23		71	+ 0·65		...
			+ 0·68		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1889.			″		
Jan. 23	C	54	...		...
		57	− 0·56	*f*	3
		62	+ 0·07		3
			− 0·25		
24	P	54	+ 0·22		2-3
		57	− 0·35		3
25		71	+ 0·26		3
			+ 0·04		
25	C	55	...	*f*	...
		57	− 0·53		2-3
			− 0·53		
27	C	60	− 0·06		2-3
		62	+ 0·52		2-3
28		71	+ 0·22		3
			+ 0·23		
29	C	57	− 0·43		3
		60	+ 0·54		3
30		71	+ 0·18		3
			+ 0·10		
Feb. 3	M	57	− 0·75		2-3
		62	+ 0·89		3-2
4		71	− 0·56		3
			− 0·14		
8	C	61	...	F	3-4
		62	+ 0·10		3-4
			+ 0·10		
10	C	59	...	F	3
		61	...	*f*	3
		62	+ 0·03		3-4
11		71	− 1·18		3
		2	...	*f*	3
			− 0·58		
11	M	62	+ 0·64		3-4
12	C	60	...	F	3
		62	+ 2·07		3-4
13		71	+ 1·49		3
			+ 1·78		
14	C	61	...	*f*	...
		62	+ 1·27		3
15		71	+ 0·49		3-4
		3	− 0·09		3-4
			+ 0·56		
17	M	61	+ 0·07		3-2
		62	+ 0·32		3
18		71	− 0·18		2-3
		3	+ 0·41		...
			+ 0·16		
18	C	61	− 0·24		2
		62	+ 0·62		3
		71	− 0·25		3
19		3	+ 0·70		2-3
			+ 0·21		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1889.			"		
Feb. 21	M	61	+ 0·16		3–2
		62	− 0·19		2–3
		63	+ 0·57		3–2
22		71	+ 0·20		2–3
		3	− 0·37	*f*,c	...
			+ 0·07		
22	C	61	...		3–4
		62	+ 0·06		3
		63	...		3
23		71	− 0·31		3
			− 0·13		
26	C	62	+ 0·39		2–3
		63	+ 0·93		3
27		71	− 0·25		3
		3	+ 0·58		3
			+ 0·41		
27	M	62	+ 0·91		2–3
		63	+ 0·02		...
28		71	− 0·29		2–3
		3	+ 0·57		3–2
			+ 0·30		
Mar. 3	M	63	+ 0·08	*f*	2–3
		66	+ 0·59		2–3
		71	+ 1·08		2–3
			+ 0·58		
6	C	65	− 0·72		3
		66	...		...
		71	+ 2·15		3–4
			+ 0·72		
7	M	65	+ 1·27	F	3–4
		71	+ 1·28	*u*	3
8		3	+ 1·53		3–4
			+ 1·36		
14	C	65	...		...
		66	+ 0·99		2–3
		71	− 0·36		3–4
15		3	0·00		3
			+ 0·21		
15	M	65	+ 0·43		2–3
		66	+ 0·11		...
		71	+ 0·53		3
			+ 0·36		
17	M	65	+ 0·39		2–3
		66	− 0·62		2–3
		68	+ 0·22		2–3
		71	+ 0·12		2–3
18		3	− 0·38		3–2
			− 0·05		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1889.			"		
Mar. 18	C	65	...		...
		66	...		...
		71	− 0·28		3
19		3	− 0·32		3–4
			− 0·30		
21	M	65	+ 0·73		2
		66	− 0·01		2–1
		68	+ 0·28		2–3
		71	+ 0·75		2–3
22		3	+ 0·36		2
			+ 0·42		
22	P	65	− 0·18		2–3
		66	+ 0·20		3–2
		71	0·00		...
23		3	+ 0·08		3
			+ 0·03		
27	M	66	+ 1·57		2
		68	+ 0·09		2
		71	+ 0·60		2–3
		72	+ 1·39		2–3
28		8	+ 0·22		2–3
			+ 0·77		
Apr. 2	C	68	+ 0·68		2
		71	− 0·11		2
		72	...		...
3		9	+ 0·64		3
			+ 0·40		
8	M	71	+ 0·79		2–3
		72	− 0·23		2–3
		3	+ 0·62	*f*	...
9		8	...		...
			+ 0·39		
29	M	1	− 0·23		2–3
		2	+ 1·03		2–3
		3	+ 1·34		2–3
			+ 0·71		
May 10	M	3	+ 0·71		3
		5	− 0·69	F	2–3
11		11	+ 1·56		2–3
			+ 0·53		
12	M	3	+ 1·18		3–2
		4	+ 0·65		2–3
		5	+ 0·19		2–3
			+ 0·67		
22	C	4	+ 0·02		2
		8	− 0·35		3
23		11	+ 0·41		3
			+ 0·03		
June 2	M	8	− 0·58		2
		11	...		...
3		13	+ 1·06		...
			+ 0·24		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1889.			"		
June 5	M	11	+ 0·46		2–3
6		13	+ 1·51		2–3
		17	+ 0·64		2
		19	− 0·03		...
			+ 0·65		
7	P	13	+ 0·87		2–3
		19	+ 0·69	m	2–3
			+ 0·78		
7	C	8	+ 0·42		...
		11	+ 0·39		...
8		17	− 0·21		2–3
		19	− 0·14		2–3
			+ 0·12		
10	P	11	+ 0·25		4–3
11		19	+ 0·12		3–4
			+ 0·19		
14	C	8	− 0·06		2–3
		11	+ 0·20		2–3
		13	+ 0·32		...
			+ 0·15		
17	C	8	+ 0·33		3
		11	− 0·02		3–4
		13	+ 0·42		3
			+ 0·24		
24	P	13	− 0·39		2–3
		17	− 0·61		2–3
			− 0·50		
27	C	11	+ 0·53		3
		19	+ 0·62		...
			+ 0·58		
30	M	11	− 0·14		2
		13	+ 0·78		2–3
		19	+ 1·09		2–3
July 1		23	+ 0·15		2–3
			+ 0·47		
2	C	11	+ 1·33		3
		17	+ 1·00		3
		19	+ 1·67		...
3		23	+ 3·51		2–3
			+ 1·88		
3	M	11	+ 0·59		2–3
		17	+ 0·58	*f*,*d*	...
		19	+ 0·63		3–2
4		27	− 0·66		2–3
			+ 0·29		
8	C	11	− 0·02		1–2
		20	+ 0·70		2
			+ 0·34		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1889.			"		
July 16	M	13	+ 0·76		2
		16	+ 0·22		1–2
		17	+ 0·27		...
		19	− 0·02		2–3
17		29	...		...
		31	+ 0·91		2–3
			+ 0·43		
17	P	17	+ 0·13		3
		19	+ 0·41		2–3
		27	− 0·64		4–3
			− 0·03		
21	C	13	+ 0·60		3–2
		18	+ 0·51		2–3
		19	+ 0·57		2–3
		27	− 0·34		...
			+ 0·34		
22	M	13	+ 0·76		2
		16	+ 0·44		2–3
		17	+ 0·59		2–3
		27	− 0·52		2–3
			+ 0·32		
23	P	18	+ 0·32		2
		19	+ 0·32		2–3
			+ 0·32		
25	C	17	+ 0·13		3
		18	+ 0·80		3
		19	+ 0·36		3
		27	− 0·80		3–4
			+ 0·12		
28	P	27	− 0·48		...
Aug. 1	M	28	+ 0·70	*d*	3–2
		29	+ 0·84		2–3
		31	+ 0·43		2–3
		32	...		...
			+ 0·37		
6	C	21	+ 0·59		2–3
		27	− 0·30		3
7		32	+ 1·72		2–3
			+ 0·67		
7	P	23	− 0·24		2–3
		29	− 0·03		3–2
			− 0·14		
8	C	27	− 0·27		2–3
11	C	23	...		...
		27	− 0·23		2–3
		29	+ 0·39		3
			+ 0·08		
15	M	23	+ 1·40		3–2
		27	− 0·28		2–3
		29	+ 0·35		3
		31	+ 0·75	F	...
			+ 0·56		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1889.			"		
Aug. 16	P	27	− 1·37		3
20	C	27	− 0·38		3
		29	...		...
		31	+ 0·54	*f*	3–4
			+ 0·08		
	M	27	− 0·50		3–4
		31	+ 0·53		2–3
			+ 0·02		
27	M	29	+ 0·11		2
		31	− 0·23		2–3
		38	+ 0·09		3–2
			− 0·01		
29	C	31	+ 0·27		2–3
Sept. 1	C	31	+ 0·48		2–3
2		41	+ 0·39		3
			+ 0·44		
4	C	31	+ 0·24		3
5		37	+ 0·32		3
		38	− 0·30		2–3
			+ 0·09		
10	M	31	− 0·52		3–4
		32	+ 1·64		3–4
11		38	− 0·97		3–4
		41	+ 0·18		2–3
			+ 0·08		
11	P	31	+ 0·27		3–2
12		41	+ 0·39		3–4
			+ 0·33		
12	M	32	+ 2·08		3–4
13		38	...		...
		42	− 0·26		2–3
			+ 0·91		
18	C	31	+ 0·49		3
		32	+ 0·91		3
19		41	...		...
			+ 0·70		
23	M	32	+ 1·39		3–2
25	C	32	− 0·26		3–4
26		41	...		...
			− 0·26		
29	M	32	+ 0·35		3–2
30		41	− 0·15		3–2
		42	+ 0·70		3–2
			+ 0·30		
Oct. 1	M	32	+ 0·59		2–3
2		41	+ 0·65		3
		42	+ 2·20		3–2
			+ 1·15		
4	P	35	+ 1·11		3–4
5		41	+ 0·10		4–3
			+ 0·61		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1889.			"		
Oct. 8	C	35	+ 1·76		3
9		44	0·00		3
			+ 0·88		
14	P	35	+ 1·95		3–4
15		42	+ 0·13		3
			+ 1·04		
18	C	35	+ 2·24		3–4
		38	0·00		3
			+ 1·12		
27	P	36	− 0·10		2–3
		38	− 0·07	*f*	...
		41	+ 1·06		3
			+ 0·30		
29	M	36	+ 0·38		2–3
30		54	− 0·58		3
			− 0·10		
Nov. 4	M	41	+ 0·97		3
		42	+ 2·11	f	3
5		50	+ 0·71		2–3
			+ 1·26		
10	M	41	− 0·39	d	3
11		50	...		...
			− 0·39		
12	C	40	+ 0·54		3
		41	+ 0·70		3
		50	+ 0·88		3–4
			+ 0·71		
20	M	41	+ 3·47		3
		42	+ 0·65		3–2
21		50	+ 0·51	*f*,c	2–3
			+ 1·54		
21	C	41	− 0·09		3–4
22		50	− 0·17		3–4
			− 0·13		
Dec. 4	M	42	+ 0·62		2–3
5	C	43	+ 0·18		3
		44	...		...
			+ 0·18		
8	M	43	+ 2·53	*f*,*d*	3–4
		44	+ 2·36	*f*,*d*	3–4
		50	− 0·30		3
			+ 1·53		
27	C	48	+ 0·53		2–3
		50	+ 0·28		3
			+ 0·41		
29	C	49	+ 0·53		3
		50	+ 0·37		3
			+ 0·45		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1890.			″		
Jan. 10	C	54	...		...
		65	− 0·83		3–4
			− 0·83		
17	C	52	+ 0·28		3
		56	+ 0·40		...
			+ 0·34		
21	C	54	+ 0·18		3
		57	....		...
			+ 0·18		
29	C	56	...		...
		62	− 0·04		3
			− 0·04		
Feb. 7	C	60	+ 0·82		3
		62	− 0·54		3
			+ 0·14		
9	C	62	− 0·30		3
10		71	+ 0·44		3–4
			+ 0·07		
19	C	63	− 0·08		3–2
20		71	− 0·02		3
			− 0·05		
25	C	62	+ 0·14		3
		63	...		...
			+ 0·14		
28	M	62	+ 1·17		3–2
		64	+ 0·90		3–2
			+ 1·04		
Mar. 4	M	64	...		3
		71	+ 0·34		3
			+ 0·34		
5	C	63	− 0·08		3–4
		65	...		...
		71	+ 1·39		3–4
			+ 0·66		
6	M	64	+ 0·01		...
		71	+ 0·42		3
			+ 0·22		
7	C	64	− 0·15		2
		65	− 0·03		2–3
			− 0·09		
12	C	65	− 0·04		2–3
		66	− 0·34		3
		71	+ 0·52		3
			+ 0·05		
20	M	65	− 0·13		2
		66	+ 0·75		2
		71	+ 0·73		2–3
			+ 0·45		
23	M	65	− 0·28		2–3
		66	− 0·79		3–2
24		3	+ 1·14		3–2
			+ 0·02		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1890.			″		
Mar. 30	C	68	+ 1·00		3
		71	0·00		3
			+ 0·50		
Apr. 4	P	71	− 0·48		2–3
7	M	71	+ 1·67		3–2
13	P	71	+ 0·05		2
		72	+ 0·59		2
			+ 0·32		
15	AP	71	− 0·28		2–3
29	AP	3	+ 0·48		3
30		13	+ 0·81		2–3
		14	+ 0·52		2–3
			+ 0·60		
30	C	3	+ 1·08		2–3
		8	...		2–3
May 1		11	+ 0·20		2–3
			+ 0·64		
1	P	3	+ 1·34		3–2
2		13	− 0·22		3–2
			+ 0·56		
2	AC	3	+ 0·24		3
13	M	3	+ 0·36		2
		4	− 0·21		2–1
14		18	+ 0·74		2
		19	+ 0·18		2
			+ 0·27		
27	P	8	− 0·03		2–3
28		13	+ 0·17		2
		15	+ 1·54		2–3
		16	− 0·30		2
			+ 0·35		
June 1	M	8	...		...
		10	+ 0·87		2–3
		16	...		...
		17	...		...
			+ 0·87		
4	P	8	+ 0·52		2–3
5		13	+ 0·22		2–3
		19	+ 0·80		3–4
			+ 0·51		
10	AC	8	− 0·01		...
		13	...		...
			− 0·01		
11	C	9	− 0·23		2–3
		13	+ 0·53		2–3
12		27	+ 0·66		2–3
			+ 0·32		
13	AP	8	+ 0·92		2–3
		13	+ 0·57		3
14		27	− 0·84		3
			+ 0·22		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1890.			″		
June 16	AP	8	...		...
		19	+ 0·51		3–2
			+ 0·51		
16	C	8	+ 0·36		2–3
		11	0·00		3
17		19	− 0·23		3
		27	+ 0·23		3–4
			+ 0·09		
18	W	11	+ 1·80		...
		13	+ 0·29		...
		14	− 0·22		...
			+ 0·62		
23	P	9	− 0·56		2–3
		10	+ 0·15		2
		11	+ 0·30		3
		13	− 1·17		2–3
24		23	− 0·55		3–4
			− 0·37		
24	C	9	− 0·54		...
		11	− 0·39		...
25		27	− 0·42		...
			− 0·45		
25	AP	13	+ 0·60		2
		19	− 0·42		3
26		30	+ 0·55		2–3
			+ 0·24		
26	W	13	+ 0·63		...
		14	+ 0·17		...
			+ 0·40		
27	M	10	− 0·12		2–3
		11	+ 2·77		...
		13	+ 0·50		2–3
		19	+ 1·37		2–3
			+ 1·13		
July 3	AP	13	+ 0·87		2
		14	+ 0·80		2
4		27	− 0·60		2–3
		31	− 0·15		2–3
			+ 0·23		
8	W	11	+ 0·40		..
		14	+ 0·31		...
		17	+ 0·04		...
9		27	− 0·34		...
		31	+ 0·04		...
			+ 0·09		
9	P	13	− 0·30		2–3
		14	− 0·55		2–3
10		27	− 1·10		2–3
		31	− 0 34		2–3
			− 0·57		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1890.			"		
July 10	AC	13	+ 1·01		...
		14	+ 0·93		...
		17	+ 1·27		...
11		31	+ 2·00		...
			+ 1·30		
16	AC	13	...		...
		16	− 0·02		...
			− 0·02		
20	P	13	+ 0·42		2–3
		14	+ 0·26		2–3
		27	+ 0·05		2–3
			+ 0·24		
23	AC	19	+ 0·99		...
		27	− 0·28		...
			+ 0·36		
24	W	27	+ 0·08		2–3
Aug. 5	C	22	+ 0·94		2
		35	...		...
			+ 0·94		
8	M	23	+ 0·86		2–3
		27	− 0·87		2–3
		29	+ 0·52		2–3
			+ 0·17		
12	C	22	+ 1·34		2
		27	− 0·77		2
13		36	+ 0·56		2
			+ 0·38		
13	AC	27	− 0·44		...
14	AP	22	+ 1·77		...
		27	+ 0·36		...
			+ 1·07		
17	C	27	− 0·23		3–4
		38	...		...
			− 0·23		
25	AP	27	+ 0·62		3–2
26		36	− 0·65		3
			− 0·02		
28	AC	27	− 0·10		3
		41	...		...
			− 0·10		
29	C	29	+ 0·76		2–3
31	P	29	− 0·07		2
Sept. 1	M	29	+ 1·06		...
		31	+ 0·46		3
2		38	− 0·83		2–3
		41	+ 0·71		2–3
			+ 0·35		
5	AP	29†	− 0·74		...
10	M	41	+ 1·34		2–3
		42	+ 0·77		2–3
			+ 1·06		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1890.			"		
Sept. 12	W	31†	+ 0·94		...
14	AC	31†	+ 1·72		3–4
17	W	31	+ 1·38		...
18		42	+ 1·75		...
			+ 1·56		
19	C	32	...		...
20		38	...		...
Oct. 8	P	42	− 0·33		3–4
		44	− 0·10		2–3
			− 0·22		
13	P	42	− 1·11		4–3
30	AC	41	+ 0·37		...
		42	+ 0·29		...
			+ 0·33		
Nov. 3	M	36	...		2
		50	+ 1·29		3
			+ 1·29		
4	C	41	...		...
		50	+ 0·77		3
			+ 0·77		
5	AP	54	+ 1·92		2–3
5	W	41	+ 0·85		2–3
		42	+ 1·15		...
			+ 1·00		
7	AC	41	+ 0·92		...
		42	− 1·81		...
			− 0·45		
10	M	38	...		...
		41	+ 0·24		3–4
		42	...		...
11		50	+ 1·37		2–3
			+ 0·81		
19	AP	41	− 0·35		3–2
		42	− 0·54		3–2
			− 0·45		
26	M	42†	+ 2·80		3–2
Dec. 17	AC	46	+ 0·42		...
30	C	49	+ 0·76		2–3
		50	+ 0·87		3
			+ 0·82		
1891.					
Jan. 11	P	52	+ 0·54		3–4
		54	− 0·50		3–4
12		62	+ 0·43		3–4
			+ 0·16		
13	M	52	+ 0·35		3
		54	+ 4·00		3
14		71	− 0·22		3–4
			+ 1·38		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1891.			"		
Jan. 15	AC	52	− 0·78		...
16	M	52	+ 0·72		2–3
		54	+ 0·52		2–3
		62	+ 3·27		...
			+ 1·50		
18	M	52	...		...
		54	+ 0·77		3
			+ 0·77		
21	P	54	+ 0·39		3
25	W	57	...		...
		62	+ 0·16		...
			+ 0·16		
26	AC	54	+ 0·18		...
27		71*	− 0·49		...
			+ 0·16		
27	P	57	+ 0·73		...
		62	− 0·03		3–4
28		71	− 0·04		3
			+ 0·22		
Feb. 2	AP	71	+ 0·24		3–4
3	M	62	+ 0·86		3
5	P	57	− 0·72		...
		62	− 1·12		3–4
		71	...		...
			− 0·92		
6	AC	62	+ 0·23		...
10	W	62	...		...
11	AP	62	+ 0·74		3–4
12		71	+ 0·46		3–4
			+ 0·60		
13	AC	62	+ 0·30		3–4
15	P	62	+ 0·54		3
16		71	+ 0·57		3–4
			+ 0·56		
16	W	62	+ 0·41		3
18	C	3	+ 0·10		...
22	M	62	+ 0·25		2–3
27	C	62	+ 1·03		2–3
Mar. 1	W	62	+ 0·27		2–3
2	AP	62	− 0·11		3–2
		71	− 5·20		...
			− 2·66		
3	C	71	− 1·63		...
4		3	+ 0·41		3–4
			− 0·61		
4	M	71	+ 1·29		3
8	AC	71	+ 2·25		...
9	M	66	+ 1·03		3
		71	− 0·44		2–3
10		3	+ 0·80		3
			+ 0·46		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1891.			"		
Mar. 12	P	71	+ 0·53		3
13		3	− 0·14		3
			+ 0·20		
15	AP	66	+ 0·81		3
		71	+ 0·79		2–3
16		3	− 0·44		3–4
			+ 0·39		
16	AC	66	− 0·33		...
		71	− 0·40		...
17		3	+ 0·58		...
			− 0·05		
19	C	66	+ 1·06		3–4
		3	...		...
			+ 1·06		
22	C	66	+ 0·44		3
		71	+ 1·45		3–4
			+ 0·95		
23	P	66	− 0·17		3
		71	− 0·19		3–4
24		3	+ 0·56		3
			+ 0·09		
Apr. 1	M	71	+ 0·60		3
5	W	71	+ 0·22		3
		3	+ 2·10		3
			+ 1·16		
6	P	71	− 0·61		3
		3	0·00		3
			− 0·31		
9	AC	71	− 0·44		3–4
10	C	72	− 1·47		3
		3	+ 1·78		3
			+ 0·16		
16	P	71	− 0·10		2–3
		3	− 0·09		2–3
			− 0·10		
17	M	71	+ 0·64		2–3
		72	+ 0·14		2–3
		3	+ 0·79		3
			+ 0·52		
19	C	3	− 0·04		2–3
20		11	− 0·21		3
			− 0·13		
21	M	3	+ 0·75		2–3
22		11	+ 0·02		3
			+ 0·39		
22	P	3	+ 0·92		3
23		11	+ 0·34		2–3
			+ 0·63		
24	AC	3	− 1·44		3–4

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1891.			"		
Apr. 28	AC	3	+ 0·75		4–3
May 8	W	3	+ 1·41		2
10	C	8	+ 0·05		2–3
11		13	− 0·17		3
			− 0·06		
13	M	3	− 0·80		2
14		11	− 1·10		2–3
		13	− 0·01		2–3
		16	− 0·63		2–3
			− 0·64		
14	AP	3	+ 0·26		2–3
15		11	+ 0·59		3
		13	+ 0·39		3
			+ 0·41		
22	AP	11	+ 1·04		3
		13	+ 0·52		2–3
		16	− 0·43		2–3
		22†	+ 0·67		2–3
			+ 0·45		
22	M	8	− 0·35		2–3
23		11	+ 0·89		2
		13	+ 0·78		2
			+ 0·44		
27	AC	10	− 0·95		...
28		13	− 0·49		...
		16	0·00		...
			− 0·48		
28	M	5	− 1·00		2–3
		9	− 0·31		2–3
		10	− 0·35		2–3
29		13	+ 0·24		2–3
		17	+ 0·46		2
			− 0·19		
31	W	10	+ 0·08		...
June 1		17	+ 0·05		...
			+ 0·07		
7	M	8	− 0·26		2–3
8		17	+ 0·75		2–3
		19	− 0·59		...
			− 0·03		
8	W	8	+ 0·08		...
		17	...		...
		19	...		3
			+ 0·08		
9	AC	8	− 0·41		...
		11	− 0·22		...
10		16	− 0·44		...
		17	...		...
		19	+ 1·77		...
			+ 0·18		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1891.			"		
June 15	M	11	+ 1·22		2
		13	− 0·32		2–3
16		19	+ 0·27		2–3
		22†	+ 1·49		3
			+ 0·67		
18	AP	13	+ 0·49		2–3
19		22†	+ 0·91		2–3
		23	+ 0·76		2–3
			+ 0·72		
22	P	11	+ 0·77		3
		13	− 0·49		2–3
		19	+ 0·25		2–3
23		23	+ 0·01		...
			+ 0·14		
28	M	10	− 0·41		2
		11	+ 0·10		2
		13	+ 0·13		2–3
29		19	...		2
		22†	+ 0·47		2–3
		23	+ 0·53		2
		27	− 1·61		2
			− 0·13		
29	W	13	− 0·04		3–4
July 1	C	11	+ 0·34		2–3
		13	− 0·08		2–3
		23	...		...
			+ 0·13		
3	AC	18	+ 0·24		...
		19	+ 1·39		...
4		27	− 1·14		...
			+ 0·16		
5	P	11	+ 0·09		2–3
		13	+ 0·43		2–3
		22†	+ 0·83		2–3
6		27	+ 0·45		2–3
			+ 0·45		
6	W	11	− 0·03		3
		22†	+ 1·50		3
7		27	+ 1·84		3
		31	+ 0·26		3
			+ 0·89		
7	M	11	+ 0·94		2–3
		13	+ 0·44		2–3
		19	− 0·32		2–3
8		27	− 0·21		2–3
		31	+ 0·66		2
			+ 0·30		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1891.			"		
July 10	AP	11	− 0·18		2–3
		13	+ 0·40		3
		19	+ 0·37		2–3
		22†	+ 1·10		3
		27	...		...
			+ 0·42		
14	C	13	+ 0·57		3
		19	− 0·10		3–2
15		31	+ 0·37		3–2
			+ 0·28		
15	AP	13	+ 0·46		3
16		31	+ 0·24		3
		32	+ 1·86		3
			+ 0·85		
16	C	13	...		...
		19	...		...
17	M	13	+ 0·49		2
		19	+ 0·95		2–3
			+ 0·72		
19	M	13	+ 0·94		3
		19	− 0·48		3
		27*	− 0·93		3
20		31	+ 1·36		3
		32	+ 2·22		3
			+ 0·62		
29	W	19	− 0·08		...
		22†	+ 1·31		...
30		31	+ 0·37		...
			+ 0·53		
30	AC	22†	+ 0·99		3–4
		27	+ 1·70		3–4
31		32	+ 0·84		3–4
			+ 1·18		
Aug. 6	P	22†	+ 0·75		2–3
		27	− 1·11		3
		31	...		...
			− 0·18		
10	W	27	− 0·20		3
11		32	+ 1·18		3
		35	+ 0·92		3
			+ 0·63		
11	C	22†	+ 1·08		3
		27	− 0·51		1–2
			+ 0·29		
13	P	22†	+ 1·03		2
		27	− 1·16		2
		31	− 0·05		3–2
		32	...		...
14		35	+ 0·68		2
			+ 0·13		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1891.			"		
Aug. 17	C	27	− 0·34		2–3
18		36	− 0·20		2–3
			− 0·27		
18	M	27	− 0·17		3–2
		29	+ 0·32		3–2
19		35	− 0·69		2–3
		37	+ 1·34		2
			+ 0·20		
19	P	27	− 0·69		2–3
		29	+ 0·03		2–3
20		36	− 0·26		2
			− 0·31		
20	AC	27	− 0·59		...
		29	− 0·99		...
21		36	− 1·61		...
			− 1·06		
26	C	27	− 0·56		3–4
		31	− 0·36		3–4
		36	...		..
			− 0·46		
30	M	31	+ 0·32		3–4
31		37	+ 0·90		2–3
		38	+ 0·04		2–3
			+ 0·42		
Sept. 4	W	29	+ 0·68		3–4
		31	+ 0·64		3–4
			+ 0·66		
13	P	31	+ 0·55		3
14		38	+ 0·15		2–3
			+ 0·35		
14	W	31	+ 0·37		3
15		38	+ 0·66		3
			+ 0·52		
18	AC	32	+ 0·24		3
20	C	31	+ 0·09		2–3
21		42	+ 1·93		3–2
			+ 1·01		
23	M	31	+ 0·69		2–3
		32	+ 0·99		2–3
24		41	+ 0·54		3
		42	+ 0·67		3–4
			+ 0·72		
29	M	32	+ 0·86		3–4
30		41	− 0·04		3
		42	+ 0·15		3–4
			+ 0·32		
Oct. 1	C	32	+ 0·98		3–2
2		41	+ 0·68		3
			+ 0·83		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1891.			"		
Nov. 5	C	41	+ 0·17		3–4
		42	− 0·33		3–4
			− 0·08		
16	C	41	+ 0·12		3–4
		42	+ 1·92		3
			+ 1·02		
30	M	42	+ 0·44		3–2
		62	...		...
			+ 0·44		
Dec. 7	C	50	− 0·01		3–4
8		59	+ 0·82		3–4
			+ 0·41		
15	C	44	...		...
		50	− 0·37		3
			− 0·37		
16	M	44	+ 3·26		3
		50	+ 0·34		3
17		62	− 0·01		3
			+ 1·20		
1892.					
Jan. 4	AC	50	− 0·75		3–4
5		62	+ 0·88		3–4
			+ 0·07		
5	W	50	+ 1·12		3
6	C	50	+ 0·34		2–3
		54	+ 1·27		3
			+ 0·81		
13	M	54	...		...
		71	+ 0·10		3–4
			+ 0·10		
20	M	54	+ 1·17		2–3
		62	+ 0·92		8
21		67	+ 2·23	F	...
		71	+ 0·72		2–3
			+ 1·26		
24	C	54	+ 0·56		2–3
		62	+ 1·11		3
25		71	+ 0·63		3
			+ 0·77		
Feb. 1	M	62	+ 1·29	*f*	3
2		3	+ 0·29		2–3
			+ 0·79		
3	AC	62	− 0·24		3–4
4		71	− 0·02		3–4
			− 0·13		
4	W	62	+ 1·85		...
8	C	59	− 0·38		3
		62	+ 0·24		3
			− 0·07		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1892.			"		
Feb. 9	AC	59	+ 0·61		3–4
		62	− 0·10		3–4
10		71	+ 0·09		3
			+ 0·20		
10	M	62	+ 0·14		3
12	AP	59	− 0·34		3–4
		62	...		...
			− 0·34		
14	C	59	− 0·38		3
		62	− 0·34		3–4
			− 0·36		
16	M	62	+ 0·54		2–3
17		3	+ 0·38		...
			+ 0·46		
18	AC	59	− 0·52		...
		62	+ 0·34		...
19		71	− 0·60		3–4
			− 0·26		
19	W	62	+ 0·42		3–4
		71	...		...
			+ 0·42		
21	M	62	+ 0·92		3
22		5	+ 1·06		3
			+ 0·99		
23	C	62	+ 0·21		3
		71	...		...
24		3	+ 0·01		3
			+ 0·11		
24	W	62	+ 0·02		3
		71	...		...
25		3	+ 2·72		3
			+ 1·37		
Mar. 1	M	62	+ 0·12		2–3
2	AP	62	− 0·08		3
		66	...		...
			− 0·08		
3	P	62	− 0·69		3
		71	− 0·55		3–4
			− 0·62		
8	P	3	0·00		3
8	C	63	− 0·18		3
		71	− 0·12		3–4
			− 0·15		
10	C	71	− 0·18		...
11		3	+ 0·65		3–4
			+ 0·24		
16	P	66	− 1·12		3
		71	+ 0·70		3
			− 0·21		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1892.			"		
Mar. 22	C	65	− 0·85		2–3
		66	+ 0·24		3
			− 0·31		
31	AP	66	+ 0·33		3
		71	+ 0·31		3
			+ 0·32		
Apr. 1	P	71	− 0·48		2–3
4	W	68	+ 0·03		...
		71	+ 0·14		...
			+ 0·09		
6		68	− 0·35		2
		71	− 0·57		2–3
			− 0·46		
7	AP	68	− 0·27		2–3
		71	− 0·09		3
			− 0·18		
8	W	71	− 0·19		3
		3	+ 0·58		3
			+ 0·20		
13	C	8	− 0·11	*f*	...
		9	+ 0·03		3
			− 0·04		
13	W	71	+ 0·06		3
14		9	− 0·22		...
			− 0·08		
19	AP	71	+ 0·24		3
		3	+ 0·08		3
20		11	+ 1·29		3–4
			+ 0·54		
20	P	71	− 0·69		2–3
		3	+ 0·89		2–3
21		11	+ 0·60		3
			+ 0·27		
25	P	3	− 0·08		2–3
		4	+ 1·02	*f*	...
26		13	− 0·44		2–3
			+ 0·17		
26	AP	3	+ 0·85		3
		4	+ 0·91	*f*	...
27		13	+ 0·13		2–3
			+ 0·63		
28	C	11	− 0·23	f	...
		13	+ 0·72		3–4
			+ 0·25		
May 8	AP	3	+ 0·72		2–3
9		13	+ 0·32		3
		17	− 0·19		3
		19	− 0·21		3
			+ 0·16		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1892.			"		
May 11	P	3	− 0·49		2
		4	− 0·30		2
12		11	− 0·28		2
		19	− 0·80		2–3
			− 0·47		
12	W	3	+ 0·60		...
13		13	+ 0·51		...
		19	+ 0·91		...
			+ 0·67		
13	C	3	+ 0·32		1
		4	− 0·12		1–2
			+ 0·10		
15	AP	3	0·00		3
		4	+ 0·12	f	...
		8	− 0·39		3
16		13	+ 0·07		3
		19	− 0·04		3
			− 0·05		
16	C	3	− 0·18		2–3
		4	− 0·37		2
			− 0·28		
18	W	3	+ 0·83		...
		4	+ 0·46		...
19		17	− 0·01		...
		19	+ 0·08		...
			+ 0·34		
24	C	4	+ 0·29		1–2
25		11	+ 1·57		2–3
		19	+ 1·29		3
			+ 1·05		
26	AP	4	+ 0·19	f	...
		8	0·00		3
27		11	...		...
		13	− 0·57		3
		19	− 0·03		2–3
			− 0·10		
27	P	4	+ 0·40		1–2
June 3	W	8	− 0·18		...
4		13	...		...
			− 0·18		
6	AP	8	+ 0·19		2–3
		9	− 0·48		2–3
7		17	− 0·46		3–4
		19	+ 0·60		3–4
		27	+ 0·55		3
			+ 0·08		
8	W	8	+ 0·55		3
		11	+ 0·76		3
9		22†	+ 1·22		3
			+ 0·84		

Digitized by Google

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1892.			″		
June 12	W	9	+ 0·78		...
		11	+ 0·36		...
13		23	+ 0·73		...
		27	+ 0·33		...
			+ 0·55		
15	W	8	− 0·32		...
		9	− 0·17		...
		11	+ 0·78		...
16		27	− 0·18		...
			+ 0·03		
16	P	8	− 0·25		1–2
		9	− 0·29		2
		11	− 0·03		2–3
17		27	− 0·35		3
			− 0·23		
30	C	9	+ 0·05		2
		11	+ 0·03		1–3
		19	+ 0·14		2–3
		27	...		...
			+ 0·07		
July 6	AP	11	+ 0·09		2–3
		13	− 0·76		3
		19	− 0·01		2–3
7		27	− 0·25		3
			− 0·23		
7	P	11	+ 0·15		2–3
		17	+ 0·15		2–3
8		27	...		...
		31	− 0·51		2
			− 0·07		

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1892.			″		
July 10	C	11	− 0·21		2–3
		13	+ 0·66		1–2
		19	+ 0·04		2
11		31	+ 0·35		2–3
			+ 0·21		
11	AP	11	− 0·02		3
		13	− 0·29		3
		19	− 0·16		3
12		31	+ 0·41		3
			− 0·02		
19	AP	13	+ 0·35		2
		19	− 0·20		3
		27	+ 0·34		3
			+ 0·16		
20	C	13	+ 0·59		2
		17	+ 0·19		2
			+ 0·39		
31	C	19	...		...
		27	− 0·25		3
Aug. 1		31	+ 0·45		3
			+ 0·10		
1	AP	19	− 0·05		3
		27	+ 0·69		3
2		31	− 0·70		3
			− 0·02		
2	P	19	− 0·22		3–4
		27	+ 0·38		3–4
			+ 0·08		
4	AP	19	+ 0·38		2–3

Date.	Observer.	Star.	Correction.	Notes.	Definition.
1892.			″		
Aug. 10	P	23	+ 0·28		2
		27	− 0·25		2
11		35	+ 1·10	*f*	...
			+ 0·38		
11	C	27	+ 0·37		3
12		36	...		...
			+ 0·37		
12	AP	27	− 0·84		3
16	C	23	+ 0·19		2–3
		27	− 0·49		3
		35	...		...
			− 0·15		
19	C	23	+ 0·08		2
		27	− 0·09		2–3
		29	− 0·04		2–3
			− 0·02		
28	P	31	+ 0·99		3
29	C	29	+ 0·05		2–3
30		38	− 0·79	*f*	...
			− 0·37		
Sept. 1	C	29	+ 0·19	*f*	...
6	C	29	...		...
		31	+ 0·15		3
7		38	− 0·73		3
			− 0·29		
9	C	31	+ 0·57		3–4
18	P	31	+ 0·45		3
19		41	+ 0·19		3–4
			+ 0·32		
19	P	31	+ 0·25		2–3
20		42	− 1·27		3–4
			− 0·51		

Digitized by Google

Digitized by Google

ANNALS OF THE CAPE OBSERVATORY.

VOL. II. PART VI.

OCCULTATIONS OF STARS BY THE MOON,

OBSERVED AT THE

ROYAL OBSERVATORY, CAPE OF GOOD HOPE.

IN THE YEARS

1896 TO 1906:

UNDER THE DIRECTION OF

SIR DAVID GILL, K.C.B., LL.D., D.Sc., F.R.S., HON. F.R.S. ED., &c.,

HIS MAJESTY'S ASTRONOMER AT THE CAPE.

Published by order of the Lords Commissioners of the Admiralty, in obedience to His Majesty's Command.

EDINBURGH:
PRINTED FOR HIS MAJESTY'S STATIONERY OFFICE
BY NEILL & CO., LIMITED, BELLEVUE.

And to be purchased, either directly or through any Bookseller, from
WYMAN & SONS, LTD., FETTER LANE, E.C.; or
OLIVER & BOYD, TWEEDDALE COURT, EDINBURGH; or
E. PONSONBY, 116 GRAFTON STREET, DUBLIN.

1907.

[*All rights reserved.*]

Price One Shilling and Sixpence.

Digitized by Google

Digitized by Google

INTRODUCTION.

VOLS. I., 4 and II., 2 of these Annals contain an account of the Occultations observed at the Royal Observatory, Cape of Good Hope, in the years 1835 to 1895, and a comparison of the results of the observations with Hansen's Tables of the Moon.

The present publication contains similar results for the years 1896 to 1906 inclusive.

The instruments employed, their geographical co-ordinates and heights with reference to the Transit-Circle, are :—

		s	"	feet.
18-inch	Victoria telescope			
8 „	Guiding „	0·028W	3·40S	13 above.
29 „	Victoria „ finder			
10 „	Equatorial	0·099E	4·40S	9 „
7 „	„	0·115W	2·00N	3 below.
7 „	Heliometer			
3·2 „	„ finder	0·047E	2·01N	7 above.
6 „	Equatorial	0·041E	3·64S	16 „
3 „	Theodolite	0·218W	0·00	16 below.

The observers are denoted as follows :—

B. Cookson	BC.	R. T. A. Innes	I.	J. Power	JP.
W. H. Cox	C.	G. F. Johns	GJ.	W. de Sitter	S.
W. H. Finlay	F.	V. A. Lowinger	VL.	W. Whittingdale	WW.
D. Gill	DG.	J. Lunt	L.	R. Woodgate	W.
S. S. Hough	H.	R. T. Pett	P.		

The recorded time (in all cases Sidereal) was usually taken from a sounder synchronous with the Sidereal Standard; this time, corrected for "clock-error reduced to Standard observer," is given in the column "Cape Sid. Time." In converting the Cape Sidereal Time into Greenwich Mean Time the longitude of the Transit-Circle was assumed to be

$1^h\ 13^m\ 55^s$ East of Greenwich.

500—Wt. 30248—9/07.—N. & Co. *Ltd.*

Digitized by Google

The results of the telegraphic operations, published in the *Annals of the Cape Observatory*, vol. i., part 2, give for the longitude of the Transit-Circle

$$-1^h\ 13^m\ 54^s{\cdot}76$$

a value liable to an uncertainty of perhaps $\pm 0^s{\cdot}2$ on account of the still unsatisfactory character of the determination of the longitude of Aden. For the present we must accept, as the most probable correction applicable to the Greenwich Mean Times printed on pp. 2E to 40E.

$$+0^s{\cdot}24.$$

The Astronomical Latitude of the Transit-Circle adopted for the computations is—

$$-33^\circ\ 56'\ 3''{\cdot}4.$$

The corresponding values of ϕ', log ρ and e are—

$$\left.\begin{array}{l}\phi' = -33^\circ\ 45'\ 26''{\cdot}26 \\ \text{Log } \rho = 9{\cdot}9995512.\end{array}\right\} e = \frac{1}{300}$$

This value of e is used at Greenwich and for the Cape Occultations 1835–1895, and has been retained in the present series for the sake of uniformity.

The form of the equations of condition has been adopted without change from the *Cambridge (England) Observations*, vol. xxi. pp. xlviii.–ix.

Let T = the mean local time of observation.
l = the assumed longitude, + when West.
α and δ, the Moon's Tabular Right Ascension and Declination.
π and σ, the tabular horizontal equatorial parallax and semi-diameter of the Moon.
ρ = the radius vector of the place of observation, the Earth's equatorial radius being taken as unity.
ϕ' = the geocentric latitude.
θ = the sidereal time corresponding to time T.
α' and δ' the R.A. and Declination of the star occulted.

Compute—

$$x = \frac{\sin(\alpha-\alpha')}{\sin 1''}\cos\delta,$$

$$y = \frac{\sin(\delta-\delta')}{\sin 1''} + x \sin\delta' \tan\tfrac{1}{2}(\alpha-\alpha'),$$

$$\xi = \frac{\sin\pi}{\sin 1''}\rho\cos\phi'\sin(\theta-\alpha'),$$

$$\eta = \frac{\sin\pi}{\sin 1''}\rho\{\sin\phi'\cos\delta' - \cos\phi'\sin\delta'\cos(\theta-\alpha')\},$$

$$\tan\chi = \frac{y-\eta}{x-\xi},$$

$$S = \frac{x-\xi}{\cos\chi} = \frac{y-\eta}{\sin\chi}.$$

Digitized by Google

Also let—

Δl be the correction of the assumed longitude in seconds of time;

ΔT the correction of T in seconds of time;

$\Delta\alpha$, $\Delta\delta$, etc., the corrections of α, δ, etc. in seconds of arc;

$\frac{\sin \pi}{\sin 1''}(1+p)$ and $\frac{\sin \sigma}{\sin 1''}(1+s)$, the sines of the true horizontal equatorial parallax and semi-diameter, each divided by sin 1″.

$\frac{d\alpha}{dt}$ and $\frac{d\delta}{dt}$ the changes of α and δ in a second of time, estimated in seconds of arc.

Calculate the quantities—

$$(a) = \cos\delta\,[\cos\chi + \sin\chi \sin\delta' \sin(\alpha-\alpha')],$$
$$(\delta) = \sin\chi - \cos\chi \sin\delta \sin(\alpha-\alpha'),$$
$$(l) = (a)\frac{d\alpha}{dt} + (\delta)\frac{d\delta}{dt},$$
$$m = \rho \sin\pi \cos\phi' [\cos\chi \cos(\theta-\alpha') + \sin\chi \sin\delta' \sin(\theta-\alpha')],$$
$$(\alpha') = m-(a),$$
$$(\delta') = \rho \sin\pi \sin\chi [\sin\phi' \sin\delta' + \cos\phi' \cos\delta' \cos(\theta-\alpha')] - \sin\chi,$$
$$(T) = (l) - (1{\cdot}00274)\,15m,$$
$$(\phi') = -\rho \sin\pi [\sin\chi \cos\phi' \cos\delta' + \sin\chi \sin\phi' \sin\delta' \cos(\theta-\alpha'), \quad -\cos\chi \sin\phi' \sin(\theta-\alpha')],$$
$$(p) = -\xi\cos\chi - \eta\sin\chi,$$
$$(s) = -\frac{\sin\sigma}{\sin 1''}$$

Then the final equation of condition is—

$$\frac{\sin\sigma}{\sin 1''} - S = (a)\Delta\alpha + (\delta)\Delta\delta + (\alpha')\Delta\alpha' + (\delta')\Delta\delta' + (T)\Delta T + (l)\Delta l + (\phi')\Delta\phi' + (p)\,p + (s)\,s.$$

The right Ascension, Declination, and Parallax of the Moon are from Hansen's Tables of the Moon. The adopted semi-diameter, however, is different from Hansen's, viz. :—

$$[9{\cdot}43559] \times \pi.$$

In forming the equations of condition the longitude of the observer's telescope has been assumed the same as that of the Transit-Circle, and ρ as at Mean Sea-Level. When a particular phenomenon is observed by more than one observer, the equation is given corresponding only to the instant of one observation; the observation selected is shown by the reference number.

Digitized by Google

* or † in column 1 of the table of observed and tabular quantities indicates a note referring to the observed time or identity of star respectively. "Remarks" are abbreviated as follows :—

Cloudy, c; difficult, d; exact, e; faint, f; fair, fr; good, g; glided, gl; instantaneous or sudden, i; poor or indifferent, p; uncertain, ? Italic letters indicate "very"; capitals, extremely.

The numbers, in brackets, to coloured stars refer to Chandler's scale.

The authority for the place of stars marked * in the last column is given in the footnotes; for all other stars the places are from Cape Observations, 1900 to 1906.

DAVID GILL.

ROYAL OBSERVATORY, CAPE OF GOOD HOPE,
31st December 1906.

Digitized by Google

OCCULTATIONS OF STARS

OBSERVED AT THE

ROYAL OBSERVATORY, CAPE OF GOOD HOPE,

1896-1906.

OBSERVED AND TABULAR QUANTITIES.

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Cape Sid. Time.	G.M.T.	Remarks.
	1896.						h m s	h m s	
1	Jan. 7	*i* Virginis.....	5·7	R.D.	7 inch	F.	10 41 37·7	14 19 6·7	*g.*
2	31	ρ Leonis.....	3·8	R.D.	7 inch	F.	12 44 55·4	14 47 42·3	*g.*
3	Mar. 8	*h* Sagittarii.....	4·8	R.D.	7 inch	F.	14 9 52·1	13 46 56·5	e.
4	30	Piazzi XIV. 22.....	5·5	R.D.	7 inch	F.	15 9 42·9	13 20 7·5	*g.* Did not attain full brightness at once.
5	30	C.G.A. 19332.....	6·4	R.D.	7 inch	F.	16 21 17·1	14 31 29·9	*g.*
6	30	Lalande 26150.....	5·7	R.D.	7 inch	F.	17 14 42·3	15 24 46·5	*g.*
7	Apr. 7	μ Capricorni.....	5·1	R.D.	7 inch	F.	17 10 16·4	14 48 54·0	g.
8	16	φ Tauri.....	5·0	D.D.	7 inch	F.	8 15 23·0	5 20 5·1	g. Seemed quite within Moon's disc.
9	19	Mayer 301..... ...	6·5	D.D.	7 inch	F.	10 45 35·5	7 38 5·2	g.
10	20	Lalande 16053.....	6·5	D.D.	10 inch	F.	10 43 11·0	7 31 45·2	g.
11	20	,,	...	D.D.	7 inch	I.	10·7	44·9	i. Definition bad.
12	22	α Leonis.....	1·4	D.D.	6 inch	F.	14 2 25·3	10 42 35·0	*g.*
13	22	,,	...	D.D.	10 inch	P.	24·9	34·7	
14	22	,,	...	D.D.	3 inch	J.P.	25·4	35·1	i.
15	25	ψ Virginis.....	5·0	D.D.	7 inch	F.	17 50 17·8	14 18 2·5	g.
16	28	A Scorpii.....	4·6	R.D.	7 inch	F.	19 19 51·3	15 35 33·6	i.
17	May 1	σ Sagittarii.....	2·1	D.B.	Heliom.	F.	14 7 32·1	10 12 17·8	g.
18	1	,,	...	D.B.	10 inch	P.	31·7	17·4	e, but quite distinct.
19	1	,,	...	D.B.	7 inch	I.	32·0	17·7	Note.
20	1	,,	...	R.D.	Heliom.	F.	14 48 24·9	10 53 3·9	*g.*
21	1	,,	...	R.D.	10 inch	P.	25·1	4·1	
22	1	,,	...	R.D.	7 inch	I.	25·2	4·2	e, i.
23	17	Lalande 15401.....	8·4	D.D.	7 inch	I.	9 56 3·7	4 58 36·0	
24	17	Lalande 15372.....	8·7	D.D.	7 inch	I.	9 56 37·3	4 59 9·5	
25	17	B.D. + 24° 1803...	9·5	D.D.	7 inch	I.	10 5 17·8	5 7 48·6	d.
26	17	Lalande 15412.....	8·8	D.D.	7 inch	I.	10 13 14·6	5 15 44·1	
27	18	W.B.(2) VIII. 1064	9·1	D.D.	7 inch	I.	10 2 31·4	5 1 6·8	
28	18	Piazzi VIII. 195...	6·8	D.D.	7 inch	I.	11 59 14·4	6 57 30·6	
29	20	ρ Leonis.....	3·8	D.D.	7 inch	I.	7 43 44·2	2 34 50·5	Full sunshine. i, steady.
30	24	Piazzi XIV. 22.....	5·5	D.D.	7 inch	F.	14 18 58·2	8 53 16·1	g, not i.
31	24	,,	...	D.D.	10 inch	C.	57·6	15·5	g.
32	24	C.G.A. 19332.....	6·4	D.D.	7 inch	F.	15 34 11·6	10 8 17·2	g.
33	24	,,	...	D.D.	10 inch	C.	11·5	17·1	g.
34	26	α Scorpii.....	1·3	D.B.	10 inch	P.	10 8 43·4	14 34 12·2	g.
35	26	,,	...	D.B.	7 inch	I.	43·8	12·6	gl. into limb, then i; comes not seen.
36	26	,,	...	R.D.	6 inch	F.	21 1 43·9	15 27 4·0	
37	26	,,	...	R.D.	10 inch	P.	43·4	3·5	g.
38	26	,,	...	R.D.	7 inch	I.	43·6	3·7	i, comes not seen.
39	28	Lacaille 7659.....	4·7	R.D.	6 inch	F.	11 36 34·4	5 55 35·2	g, f. at first.
40	28	,,	...	R.D.	Heliom.	I.	34·3	35·1	
41	June 19	ψ Virginis.....	5·0	D.D.	7 inch	I.	11 2 54·2	3 55 30·5	Daylight, g.
42	22	A Scorpii.....	4·6	D.D.	7 inch	I.	15 35 33·3	8 15 37·2	g, i, c. $8^m\ 5''\ 280°$.
43	July 16	Lalande 23696.....	8·8	D.D.	7 inch	I.	14 18 30·3	5 24 24·9	
44	31	ι Arietis.....	5·1	R.D.	7 inch	I.	0 3 13·0	14 8 33·1	g, i.
45	Aug. 12	Lalande 23370.....	8·9	D.D.	7 inch	I.	17 12 18·8	6 31 35·3	*g.*
46	12	Lalande 23372.....	9·4	D.D.	7 inch	I.	17 17 32·8	6 36 48·5	
47	15	O.A. 14441.....	9·2	D.D.	7 inch	I.	18 18 23·4	7 25 41·4	*g.*
48	20	4 Capricorni.....	5·8	D.D.	7 inch	I.	19 19 41·9	8 7 10·3	g.
49	Sept. 5	α Leonis.....	1·4	D.B.	10 inch	F.	10 45 2·3	22 27 4·6	f. Correct to 1^s.
50	5	,,	...	R.D.	10 inch	F.	11 12 9·3	22 54 7·1	f, i. ,, ,, 1^s.

19. Hazy. Star seemed to glide its own diameter into Moon's limb and then disappear instantaneously.

Digitized by Google

No.	Moon's Tabular				Var. in 1s.		Newcomb's Corr.		Star's Apparent		Sec. of Mean	
	R.A.	Dec.	Par.	S.-diam.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.
	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
1	13 20 11·48	− 12 37 9·4	58 49·09	16 2·17	+0·537	− 0·250	− 1·40	+ 9·7	13 21 13·78	− 12 9 62·9	13·46	58·9
2	10 30 26·02	+ 9 10 4·8	60 41·94	16 32·94	+0·562	− 0·281	− 1·49	+ 11·0	10 27 22·24	+ 9 50 22·1	20·15	30·4
3	19 28 5·17	− 25 37 3·7	55 33·61	15 8·88	+0·562	+ 0·112	− 1·48	− 4·3	19 30 23·35	− 25 6 52·1	22·73	46·3
4	14 11 32·27	− 18 11 18·1	60 43·67	16 33·41	+0·607	− 0·233	− 1·60	+ 9·1	14 9 42·48	− 17 42 72·6	40·10	55·7
5	14 14 25·89	− 18 27 45·6	60 41·75	16 32·89	+0·609	− 0·228	− 1·61	+ 9·0	14 11 21·12	− 18 6 27·4	18·72	10·5
6	14 16 35·73	− 18 39 55·5	60 40·27	16 32·48	+0·609	− 0·228	− 1·61	+ 8·9	14 12 55·46	− 18 14 20·7	53·07	3·8
7	21 45 40·20	− 14 21 33·8	54 28·84	14 51·22	+0·469	+ 0·207	− 1·24	− 8·1	21 47 38·33	− 14 2 29·7	37·61	28·3
8	4 15 50·19	+ 26 26 52·9	55 16·71	15 4·26	+0·567	+ 0·087	− 1·48	− 3·4	4 13 57·69	+ 27 6 15·7	57·40	6·0
9	7 12 28·06	+ 26 4 30·7	57 8·24	15 34·68	+0·599	− 0·103	− 1·58	+ 4·0	7 10 38·23	+ 26 52 43·3	36·85	36·0
10	8 9 7·89	+ 22 55 40·6	57 53·28	15 46·95	+0·585	− 0·162	− 1·56	+ 6·4	8 7 33·65	+ 23 27 5·0	31·96	1·6
11	7·88	...	...	...	...	...	...	...	...	...	...	...
12	10 5 2·06	+ 12 2 12·2	59 32·95	16 14·13	+0·550	− 0·257	− 1·48	+ 10·2	10 2 52·14	+ 12 28 25·1	50·03	31·9
13	2·05	12·3	...	...	...	...	...	...	...	...	...	...
14	2·06	12·2	...	...	...	...	...	...	...	...	...	...
15	12 51 26·82	− 9 19 56·6	61 1·17	16 38·18	+0·570	− 0·281	− 1·52	+ 11·1	12 48 59·16	− 8 58 45·0	56·64	26·4
16	15 51 34·48	− 25 20 33·6	59 55·70	16 20·33	+0·656	− 0·127	− 1·73	+ 5·0	15 47 24·91	− 25 0 74·0	21·98	58·6
17	18 44 48·41	− 26 59 7·9	57 27·45	15 39·92	+0·617	+ 0·073	− 1·64	− 2·8	18 48 51·64	− 26 25 35·5	49·01	31·8
18	48·39	...	...	...	...	...	...	...	...	...	...	...
19	48·41	...	...	...	...	...	...	...	...	...	...	...
20	18 46 28·94	− 26 56 5·2	57 25·86	15 39·48	+0·616	+ 0·076	− 1·64	− 2·9	18 48 51·64	− 26 25 35·5	49·01	31·8
21	28·95	...	...	...	...	...	...	...	...	...	...	...
22	...	...	...	...	...	...	...	...	...	...	...	...
23	7 50 0·38	+ 23 54 48·3	57 21·34	15 38·25	+0·586	− 0·141	− 1·55	+ 5·6	7 49 17·22	+ 24 38 15·3	15·98	10·3
24	7 50 1·69	+ 23 54 43·6	57 21·35	15 38·26	+0·586	− 0·141	− 1·55	+ 5·6	7 48 40·06	+ 24 26 31·6	38·83	26·7
25	7 50 21·96	+ 23 53 30·2	57 21·55	15 38·31	+0·586	− 0·141	− 1·55	+ 5·6	7 49 32·18	+ 24 36 63·9	30·94	59·0
26	7 50 40·52	+ 23 52 22·9	57 21·73	15 38·36	+0·586	− 0·141	− 1·55	+ 5·6	7 49 37·32	+ 24 30 12·1	36·08	7·2
27	8 45 17·49	+ 19 52 58·8	57 55·48	15 47·56	+0·564	− 0·192	− 1·50	+ 7·7	8 45 14·57	+ 20 42 7·5	13·07	6·1
28	8 49 39·52	+ 19 30 21·5	57 58·27	15 48·31	+0·562	− 0·196	− 1·50	+ 7·8	8 47 59·92	+ 20 21 38·6	58·41	37·5
29	10 24 39·22	+ 9 25 19·8	59 0·00	16 5·15	+0·531	− 0·260	− 1·42	+ 10·4	10 27 22·06	+ 9 50 23·1	20·15	30·4
30	14 8 45·76	− 17 56 5·5	60 15·41	16 25·70	+0·599	− 0·226	− 1·58	+ 8·9	14 9 42·95	− 17 42 75·8	40·10	55·7
31	45·74	5·4	...	...	...	...	...	...	...	...	...	...
32	14 11 45·76	− 18 12 59·3	60 15·12	16 25·63	+0·600	− 0·224	− 1·59	+ 8·8	14 11 21·60	− 18 6 30·7	18·72	10·5
33	...	...	...	...	...	...	...	...	...	...	...	...
34	16 25 12·25	− 26 39 22·0	59 29·66	16 13·23	+0·663	− 0·085	− 1·74	+ 3·6	16 23 5·23	− 26 12 18·4	1·78	3·7
35	12·27	...	...	...	...	...	...	...	...	...	...	...
36	16 27 32·43	− 26 43 52·2	59 28·40	16 12·89	+0·663	− 0·085	− 1·75	+ 3·3	16 23 5·23	− 26 12 18·4	1·78	3·7
37	32·41	...	...	...	...	...	...	...	...	...	...	...
38	32·42	...	...	...	...	...	...	...	...	...	...	...
39	18 9 13·13	− 27 35 59·5	58 20·97	15 54·50	+0·647	+ 0·038	− 1·72	− 1·5	18 11 36·11	− 27 4 53·6	32·57	47·7
40	...	...	...	...	...	...	...	...	...	...	...	...
41	12 46 59·13	− 9 10 22·1	59 26·13	16 12·28	+0·539	− 0·264	− 1·44	+ 10·5	12 48 58·89	− 8 58 43·8	56·64	26·4
42	15 46 6·78	− 25 6 16·6	59 10·48	16 8·00	+0·638	− 0·128	− 1·68	+ 5·1	15 47 25·46	− 25 0 76·5	21·98	58·6
43	12 38 22·05	− 8 18 15·2	59 23·39	16 11·53	+0·535	− 0·267	− 1·43	+ 10·6	12 37 44·08	− 8 2 36·8	42·14	21·5
44	1 51 19·71	+ 16 38 23·9	54 19·03	14 48 54	+0·476	+ 0·191	− 1·27	− 7·6	1 51 42·81	+ 17 18 51·5	40·09	34·9
45	12 26 52·21	− 6 55 59·1	60 5·56	16 23·03	+0·546	− 0·277	− 1·47	+ 11·1	12 24 45·63	− 6 24 69·8	43·98	57·0
46	12 27 3·60	− 6 57 25·9	60 5·51	16 23·01	+0·546	− 0·277	− 1·47	+ 11·1	12 24 49·57	− 6 18 45·5	47·92	32·8
47	15 14 34·45	− 23 30 53·3	58 52·96	16 3·23	+0·611	− 0·157	− 1·62	+ 6·2	15 12 41·33	− 23 26 54·8	38·60	36·2
48	20 10 9·37	− 22 21 38·2	56 11·27	15 19·14	+0·552	− 0·157	− 1·47	− 6·3	20 11 59·23	− 22 7 44·8	54·81	51·3
49	10 2 32·77	+ 11 36 44·2	60 8·49	16 23·83	+0·563	− 0·263	− 1·53	+ 10·7	10 2 51·74	+ 12 28 27·0	50·03	31·9
50	10 3 33·64	+ 11 29 36·5	60 9·33	16 24·05	+0·562	− 0·264	− 1·53	+ 10·7	10 2 51·74	+ 12 28 27·0	50·03	31·9

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Cape Sid. Time.	G.M.T.	Remarks.
	1896.						h m s	h m s	
51	Sept. 10	B.D. — 16° 3770..	10	D.D.	7 inch	I.	17 54 31·3	5 19 39·6	Near SL. Definition perfect. Certain to 0ˢ·5.
52	10	O.A. 13274.....	9·3	D.D.	7 inch	I.	18 4 31·0	5 29 37·6	,, ,, ,, [illegible] g, i.
53	10	B.D. — 16° 3776..	10	D.D.	7 inch	I.	18 47 13·1	6 12 12·7	Definition superb.
54	10	B.D. — 16° 3778..	9·6	D.D.	7 inch	I.	19 1 57·3	6 26 54·5	,, ,,
55	10	B.D. — 16° 3780..	9·5	D.D.	7 inch	I.	19 7 12·3	6 32 8·7	,, ,,
56	11	Lalande 27229.....	7·5	D.D.	7 inch	I.	18 47 1·0	6 8 4·8	i.
57	12	Mayer 646.....	4·9	D.D.	7 inch	I.	20 16 21·4	7 33 14·7	i.
58	15	Lacaille 8003	7·5	D.D.	7 inch	I.	20 59 27·6	8 4 26·0	g, i.
59	15	C.Z. XIX. 19	9·2	D.D.	7 inch	I.	21 11 12·9	8 16 9·4	fr. About 8 mag., so well seen.
60	18	42 Capricorni	5·1	D.D.	10 inch	F.	19 8 31·7	6 2 0·6	g.
61	18	,,	...	D.D.	7 inch	I.	31·5	0·4	g.
62	18	Mayer 932.....	6·1	D.D.	10 inch	F.	1 52 59·5	12 45 22·1	F, definition very bad. ? 1ˢ early.
63	Oct. 9	O.A. 14696.....	9·2	D.D.	7 inch	I.	20 26 44·7	5 57 26·7	Definition ex. bad, strong S. wind.
64	9	C.Z. XV. 2064.....	9·2	D.D.	7 inch	I.	20 34 50·6	6 5 31·3	Observer considers 63 to 65 = 1 good obs.
65*	9	C.Z. XV. 2089.....	8·5	D.D.	7 inch	I.	20 50 49·9	6 21 28·0	
66	9	C.G.A. 21184.....	8·4	D.D.	7 inch	I.	21 19 40·9	6 50 14·2	g. Near S. point.
67	9	α Scorpii.....	1·3	D.D.	10 inch	C.	14 6 32·8	23 34 21·2	Daylight.
68	9	,,	...	D.D.	7 inch	I.	32·6	21·0	,, g, i.
69	10	,,	...	R.B.	10 inch	F.	15 12 21·8	0 39 59·4	,,
70	10	,,	...	R.B.	7 inch	I.	21·9	59·5	,, Very steady.
71	10	Lacaille 6957	6·9	D.D.	7 inch	I.	21 39 17·6	7 5 51·8	g.
72	12	C.Z. XVIII. 2254.	9·4	D.D.	7 inch	I.	20 37 39·9	5 56 32·4	g.
73	12	O.A. 18652.....	9·1	D.D.	7 inch	I.	20 40 39·2	5 59 31·2	g.
74	12	C.G.A. 25680.....	9·1	D.D.	7 inch	I.	21 36 56·7	6 55 39·5	g. Near N. point. Very pretty observation.
75	12	C.Z. XVIII. 2330.	9·0	D.D.	7 inch	I.	21 42 42·1	7 1 23·9	g. Gradual.
76	12	C.G.A. 25709.....	8·8	D.D.	7 inch	I.	21 57 39·0	7 16 18·4	g. Almost tangential to SL.
77	12	C.P.D. — 26° 6563	9·5	D.D.	7 inch	I.	22 4 15·1	7 22 53·4	g, gl.
78	12	C.Z. XVIII. 2384.	8·8	D.D.	7 inch	I.	22 18 31·3	7 37 7·3	g.
79	12	C.Z. XVIII. 2438.	9·3	D.D.	7 inch	I.	22 45 57·7	8 4 29·2	g.
80	13	C.Z. XIX. 1636...	9·2	D.D.	7 inch	I.	21 17 54·8	6 32 44·8	g.
81	13	C.Z. XIX. 1681...	9·0	D.D.	7 inch	I.	21 58 14·5	7 12 57·9	g, i.
82	13	C.Z. XIX. 1736...	8·8	D.D.	7 inch	I.	22 54 40·7	8 9 14·8	g.
83	24	Lalande 8396	6·6	R.D.	7 inch	I.	3 8 24·1	11 39 1·7	g, not i.
84	Nov. 8	C.Z. XVIII. 1016.	9·0	D.D.	7 inch	I.	22 45 27·5	6 17 49·5	g, gl.
85	8	Lalande 33830.....	8·0	D.D.	7 inch	I.	22 47 8·0	6 19 29·7	g, gl.
86	8	C.Z. XVIII. 1071.	9·0	D.D.	7 inch	I.	22 57 19·9	6 29 40·0	Not i.
87	8	O.A. 18220.....	9·5	D.D.	7 inch	I.	23 59 10·9	7 31 20·8	Definition bad. Good to 1ˢ.
88	9	48 Sagittarii.....	7·8	D.D.	7 inch	I.	22 53 3·5	6 21 28·4	c.
89	9	χ Sagittarii.....	4·9	D.D.	6 inch	F.	22 58 57·8	6 27 21·7	g.
90	9	,,	...	D.D.	7 inch	I.	57·2	21·1	g.
91	9	,,	...	R.B.	7 inch	I.	23 22 58·8	6 51 18·8	g. Certainly within 0ˢ·5. Note.
92	9	49 Sagittarii.....	5·5	D.D.	6 inch	F.	23 27 18·7	6 55 37·9	g.
93	9	,,	...	D.D.	7 inch	I.	19·0	38·2	g.
94	9	Lalande 36618.....	8·3	D.D.	6 inch	F.	23 44 20·2	7 12 36·7	
95	9	,,	...	D.D.	7 inch	I.	20·1	36·6	
96†	10	O.A. 20454.....	8·5	D.D.	7 inch	I.	23 59 28·1	7 23 46·2	g, gl. Ruddy.
97	Dec. 10	Lalande 43974.....	6·1	D.D.	7 inch	I.	2 23 6·0	7 49 3·2	g. Almost extreme N. point.
98	10	Lalande 44019.....	7·0	D.D.	7 inch	I.	2 53 30·9	8 19 23·1	g, not quite i.
99	12	Lalande 47005.....	7·9	D.D.	7 inch	I.	1 58 53·0	7 17 2·3	g.
100	21	Piazzi VII. 182....	7·0	R.D.	7 inch	I.	8 9 13·5	12 50 58·9	g.

65. May be 1ˢ in error.
91. Reappeared in the hollow of a large crater near S. point just within the bright limb.
96. Identified by observer as O.A. 20461.

Digitized by Google

No.	Moon's Tabular				Var. in 1s.		Newcomb's Corr.		Star's Apparent		Sec. of Mean	
	R.A.	Dec.	Par.	S.-diam.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.
	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
51	13 54 43·12	− 16 57 6·6	60 28·40	16 29·25	+0·595	− 0·236	− 1·60	+ 9·4	13 52 4·57	− 16 47 15·9	2·76	0·3
52	13 55 6·85	− 16 59 27·2	60 28·18	16 29·18	+0·595	− 0·236	− 1·60	+ 9·4	13 52 9·43	− 16 49 64·6	7·62	49·0
53	13 56 48·32	− 17 9 25·7	60 27·25	16 28·94	+0·596	− 0·234	− 1·61	+ 9·3	13 54 34·59	− 16 40 40·4	32·76	24·8
54	13 57 23·37	− 17 12 51·5	60 26·94	16 28·85	+0·596	− 0·234	− 1·61	+ 9·3	13 54 55·45	− 16 34 63·0	53·62	47·4
55	13 57 35·86	− 17 14 4·6	60 26·83	16 28·82	+0·597	− 0·232	− 1·61	+ 9·3	13 55 16·77	− 16 47 30·8	14·94	15·3
56	14 55 3·75	− 22 8 0·9	59 52·02	16 19·33	+0·621	− 0·180	− 1·67	+ 7·1	14 52 44·54	− 21 58 76·6	42·36	59·7
57	15 59 17·09	− 25 50 22·8	59 6·61	16 6·94	+0·640	− 0·109	− 1·71	+ 4·3	15 57 6·11	− 25 34 46·1	3·46	29·7
58	19 2 12·11	− 26 5 50·5	56 51·09	15 30·01	+0·595	+ 0·095	− 1·59	− 3·8	19 1 34·25	− 25 51 51·2	30·27	48·3
59	19 2 40·01	− 26 4 43·3	56 50·77	15 29·91	+0·595	+ 0·095	− 1·59	− 3·8	19 1 46·57	− 25 46 16·7	42·59	13·8
60	21 33 4·06	− 14 53 45·3	55 12·57	15 3·14	+0·487	+ 0·208	− 1·31	− 8·3	21 35 57·84	− 14 30 24·8	53·61	40·4
61	4·05	...	...	...	...	...	...	...	...	...	...	...
62	21 46 3·77	− 13 28 47·4	55 5·30	15 1·16	+0·479	+ 0·214	− 1·29	− 8·5	21 44 8·08	− 13 12 10·8	3·87	27·5
63	15 33 14·03	− 24 25 17·6	60 24·18	16 28·10	+0·656	− 0·143	− 1·76	+ 5·7	15 30 52·38	− 23 58 23·5	50·23	8·5
64	15 33 35·24	− 24 26 26·8	60 23·85	16 28·01	+0·656	− 0·143	− 1·76	+ 5·7	15 31 10·58	− 24 3 68·6	8·43	53·6
65	15 34 17·11	− 24 28 43·1	60 23·37	16 27·88	+0·656	− 0·143	− 1·76	+ 5·7	15 31 36·67	− 24 11 31·8	34·51	16·8
66	15 35 32·68	− 24 32 46·9	60 22·49	16 27·64	+0·657	− 0·140	− 1·76	+ 5·6	15 32 13·61	− 24 18 61·5	11·45	46·5
67	16 19 50·93	− 26 28 0·0	59 49·40	16 18·62	+0·665	− 0·087	− 1·78	+ 3·5	16 23 4·25	− 26 12 17·8	1·78	3·7
68	50·92	...	...	...	...	...	...	...	...	...	...	...
69	16 22 45·59	− 26 33 41·2	59 47·10	16 17·99	+0·665	− 0·084	− 1·78	+ 3·3	16 23 4·25	− 26 12 17·8	1·78	3·7
70	...	...	...	...	...	...	...	...	...	...	...	...
71	16 39 52·85	− 27 2 28·2	59 33·13	16 14·18	+0·665	− 0·065	− 1·78	+ 2·5	16 37 28·65	− 26 36 47·1	26·06	33·6
72	18 41 29·97	− 26 38 45·3	57 45·87	15 44·93	+0·620	+ 0·076	− 1·67	− 3·1	18 40 52·74	− 26 31 57·9	49·34	52·6
73	18 41 37·36	− 26 38 31·7	57 45·75	15 44·90	+0·620	+ 0·076	− 1·67	− 3·1	18 40 47·23	− 26 19 33·5	43·84	28·1
74	18 43 56·44	− 26 34 10·9	57 43·58	15 44·31	+0·618	+ 0·079	− 1·67	− 3·2	18 41 27·55	− 26 4 58·7	24·16	53·5
75	18 44 10·64	− 26 33 43·8	57 43·36	15 44·25	+0·618	+ 0·079	− 1·67	− 3·2	18 42 30·84	− 26 9 45·6	27·44	40·5
76	18 44 47·51	− 26 32 33·0	57 42·80	15 44·10	+0·618	+ 0·079	− 1·67	− 3·2	18 42 43·89	− 26 31 10·9	40·48	5·7
77	18 45 3·78	− 26 32 1·5	57 42·55	15 44·03	+0·618	+ 0·079	− 1·67	− 3·2	18 42 42·11	− 26 1 62·5	38·71	57·4
78	18 45 38·94	− 26 30 53·1	57 42·03	15 43·89	+0·617	+ 0·081	− 1·67	− 3·2	18 43 36·08	− 26 3 57·2	32·68	52·2
79	18 46 46·47	− 26 28 40·1	57 40·98	15 43·60	+0·617	+ 0·081	− 1·66	− 3·3	18 44 48·54	− 26 8 24·5	45·13	19·6
80	19 40 23·70	− 24 2 56·1	56 52·21	15 30·30	+0·574	+ 0·133	− 1·56	− 5·3	19 40 4·10	− 23 49 43·3	0·44	44·1
81	19 41 56·22	− 23 57 34·6	56 50·84	15 29·93	+0·575	+ 0·133	− 1·55	− 5·3	19 40 60·32	− 23 38 4·8	56·65	5·7
82	19 44 5·35	− 23 49 59·3	56 48·90	15 29·40	+0·573	+ 0·135	− 1·55	− 5·4	19 42 14·24	− 23 21 51·9	10·57	53·1
83	4 23 0·31	+ 26 27 41·1	54 34·00	14 52·62	+0·556	+ 0·069	− 1·48	− 2·8	4 22 59·18	+ 27 10 43·5	54·34	27·0
84	18 20 0·13	− 26 58 13·6	58 59·56	16 5·03	+0·654	+ 0·055	− 1·76	− 2·3	18 17 23·51	− 26 25 25·1	20·62	18·6
85	18 20 4·50	− 26 58 8·0	58 59·49	16 5·01	+0·654	+ 0·055	− 1·76	− 2·3	18 17 44·34	− 26 30 7·8	41·45	1·3
86	18 20 31·10	− 26 57 33·6	58 59·10	16 4·90	+0·654	+ 0·055	− 1·76	− 2·3	18 18 13·91	− 26 32 56·3	11·01	49·8
87	18 23 12·16	− 26 53 58·2	58 56·63	16 4·23	+0·651	+ 0·061	− 1·76	− 2·4	18 20 31·98	− 26 35 44·0	29·07	37·7
88	19 20 51·82	− 24 49 41·6	58 1·15	15 49·10	+0·610	+ 0·118	− 1·66	− 4·8	19 19 6·50	− 24 36 55·3	3·33	53·7
89	19 21 6·16	− 24 48 59·4	58 0·91	15 49·04	+0·610	+ 0·118	− 1·66	− 4·8	19 18 60·01	− 24 42 37·8	56·83	36·2
90	6·14	...	...	...	...	...	...	...	...	...	...	...
91	19 22 4·42	− 24 46 6·9	57 59·95	15 48·77	+0·607	+ 0·121	− 1·65	− 4·9	19 18 60·01	− 24 42 37·8	56·83	36·2
92	19 22 14·92	− 24 45 35·6	57 59·76	15 48·70	+0·607	+ 0·121	− 1·65	− 4·9	19 19 15·15	− 24 9 58·2	11·99	56·8
93	14·93	...	...	...	...	...	...	...	...	...	...	...
94	19 22 56·18	− 24 43 32·4	57 59·09	15 48·55	+ 0·607	+ 0·121	− 1·65	− 4·9	19 20 43·15	− 24 15 12·6	39·99	11·4
95	...	...	...	...	...	...	...	...	...	...	...	...
96	20 19 13·10	− 21 11 56·7	57 1·77	15 32·91	+0·557	+ 0·167	− 1·52	− 6·8	20 17 31·20	− 20 51 39·9	27·84	44·5*
97	22 28 29·62	− 7 47 27·5	55 33·23	15 8·77	+0·468	+ 0·230	− 1·28	− 9·3	22 25 54·48	− 7 4 50·6	51·12	68·5
98	22 29 26·36	− 7 40 29·4	55 32·36	15 8·54	+0·468	+ 0·230	− 1·28	− 9·3	22 27 9·43	− 6 59 52·9	6·06	70·9
99	23 54 16·16	+ 3 10 27·0	54 30·22	14 51·59	+0·443	+ 0·228	− 1·20	− 9·2	23 53 40·37	+ 3 41 65·9	36·66	40·2
100	7 39 15·28	+ 23 33 45·3	56 30·23	15 24·31	+0·571	− 0·134	− 1·54	+ 5·4	7 37 47·42	+ 24 29 18·9	41·61	26·8

96. Mean R.A. and Dec. from *Cincinnati Zones.*

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Cape Sid. Time.	G.M.T.	Remarks.
	1897.						h m s	h m s	
101	Jan. 8	Lalande 46406.....	7·9	D.D.	7 inch	I.	2 56 23·1	6 28 13·3	fr.
102	14	Lalande 8396	6·6	D.D.	6 inch	F.	5 34 54·3	8 42 43·1	g.
103	14	,,	...	D.D.	7 inch	I.	54·5	43·3	fr.
104	17	A Geminorum.....	5·1	D.D.	7 inch	F.	8 33 34·5	11 29 6·3	fr, *f*, *very* close to broken edge.
105	23	χ Virginis	4·8	R.D.	7 inch	F.	10 8 6·1	12 39 46·9	g.
106	27	α Scorpii.....	1·3	D.B.	10 inch	G.	10 52 55·6	13 8 45·5	
107	27	,,	...	D.B.	6 inch	F.	55·9	45·8	g.
108	27	,,	...	D.B.	7 inch	I.	54·9	44·8	Perfect. Comes disappeared 3ˢ·8 earlier.
109	27	,,	...	R.D.	10 inch	G.	11 26 56·8	13 42 41·1	
110	27	,,	...	R.D.	6 inch	F.	57·0	41·3	g.
111	27	,,	...	R.D.	7 inch	I.	57·1	41·4	g. Comes not seen before reappearance of Antares.
112	Feb. 9	B. D. + 23°, 423.	8·1	D.D.	7 inch	I.	5 33 45·3	6 59 20·6	fr. P=90°. Identity uncertain.
113	13	39 Geminorum.....	6·2	D.D.	6 inch	F.	9 45 56·1	10 55 6·4	fr.
114	13	,,	...	D.D.	7 inch	I.	55·6	6·0	g.
115	18	79 Leonis	5·5	R.D.	7 inch	I.	8 5 24·7	8 55 12·0	fr.
116	22	Lalande 27453.....	6·1	R.D.	6 inch	F.	9 40 16·6	10 14 4·7	g.
117	22	,,	...	R.D.	7 inch	I.	16·8	4·9	g.
118	22	B. D. − 21°, 4028	7·6	R.D.	7 inch	I.	9 48 17·5	10 22 4·3	fr, gradual.
119	23	α Scorpii.....	1·3	R.D.	6 inch	F.	21 26 0·5	21 53 57·1	?, star faint and high in field.
120	23	,,	...	R.D.	7 inch	I.	1·0	57·6	fr.
121†	Mar. 9	Lalande 6897.....	8·5	D.D.	7 inch	I.	6 27 59·1	6 3 20·1	g.
122	9	W.B. (2) III. 836.	8·5	D.D.	7 inch	I.	6 42 20·6	6 17 39·3	g, not i.
123	9	W.B. (2) III. 850.	8·5	D.D.	7 inch	I.	6 53 39·3	6 28 56·1	g.
124	9	W.B. (2) III. 832.	8·4	*	7 inch	I.	7 16	6 52	Very good observation. Note.
125	9	Lalande 6940.....	8·5	D.D.	7 inch	I.	7 23 30·2	6 58 42·1	g.
126	Apr. 8	B.D. + 27° 1000..	9·3	D.D.	7 inch	I.	7 30 33·8	5 7 47·3	fr., twilight.
127	8	B.D. + 27° 1002..	9·5	D.D.	7 inch	I.	7 36 40·5	5 13 53·0	d, twilight.
128	8	Cape 1900, 4371...	9·7	D.D.	7 inch	I.	7 37 54·5	5 15 6·8	d, ? error in counting seconds.
129†	8	B.D. + 27° 1013..	8·2	D.D.	7 inch	I.	9 53 4·3	7 29 54·5	Final disappearance. Note.
130	8	Lalande 11757.....	8·6	D.D.	7 inch	I.	10 6 11·8	7 42 59·8	fr.
131	11	Mayer 387.....	6·1	D.D.	6 inch	F.	8 3 55·2	5 29 15·5	g.
132	11	,,	...	D.D.	7 inch	I.	55·1	15·5	g. Dark limb just visible.
133	14	79 Leonis.....	5·5	D.D.	7 inch	I.	7 29 27·3	4 43 5·5	g. Daylight.
134	18	Mayer 611.....	5·8	R.D.	6 inch	F.	9 56 54·4	6 54 24·9	g.
135	18	,,	...	R.D.	7 inch	I.	53·8	24·3	g.
136	19	σ Scorpii.....	3·0	R.D.	6 inch	F.	10 5 38·8	6 59 11·9	g.
137	May 5	B.D. + 27° 897...	9·1	D.D.	6 inch	F.	9 5 49·8	4 56 38·1	?. Bright limb brighter than star.
138	5	,,	...	D.D.	7 inch	I.	50·4	38·8	d.
139	5	136 Tauri.....	4·6	D.D.	6 inch	F.	9 11 3·5	5 1 51·0	g.
140	5	,,	...	D.D.	7 inch	I.	3·4	50·9	g.
141	5	W.B. (2) V. 1472.	9·0	D.D.	6 inch	F.	9 19 46·8	5 10 32·9	?. Bright limb brighter than star. Note.
142	7	B.D. + 23° 1795..	8·7	D.D.	7 inch	I.	10 58 16·1	6 40 54·2	Medium.
143	7	B.D. + 23° 1801..	7·8	D.D.	7 inch	I.	11 42 26·5	7 24 57·4	g.
144	9	Lalande 18579.....	8·4	D.D.	7 inch	I.	12 3 17·7	7 37 53·3	g, not i, 0ˢ·1.
145	10	Lalande 19909.....	8·5	D.D.	7 inch	I.	11 23 29·6	6 54 15·8	g.
146	19	Mayer 794.....	6·1	R.D.	6 inch	F.	14 12 57·0	9 7 52·3	Probably late.
147	19	,,	...	R.D.	7 inch	I.	55·6	50·9	g, not i, 0ˢ·2.
148	June 3	B.D. + 24° 1659..	9·0	D.D.	7 inch	I.	11 15 35·3	5 12 1·0	g.
149	5	W.B.(2)VIII.1499	9·0	D.D.	7 inch	I.	10 46 9·2	4 34 47·9	g.
150	6	Lalande 19515.....	7·3	D.D.	7 inch	I.	11 32 58·5	5 17 33·6	g.

121, 129. Identified by observer as B.D. + 25°·610 and W.B. (2) VI. 94 respectively.
124. Star grazed NL within 3″ and for about 10ˢ became very faint as though semi-occulted.
129. Very near S. point. Disappeared and reappeared twice in about 5ˢ.
141. Innes 9ʰ 19ᵐ 49ˢ·4 noted "Useless, perhaps 5ˢ out."

Digitized by Google

No.	Moon's Tabular				Var. in 1^s.		Newcomb's Corr.		Star's Apparent		Sec. of Mean	
	R.A.	Dec.	Par.	S.-diam.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.
	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
101	23 37 34·21	+ 1 13 51·3	55 1·63	15 0·16	+0·452	+ 0·234	− 1·23	− 9·5	23 36 2·04	+ 1 53 52·7	1·76	50·0
102	4 23 0·82	+ 26 28 40·8	54 56·33	14 58·71	+0·564	+ 0·065	− 1·53	− 2·6	4 22 60·06	+ 27 10 47·2	58·04	35·3
103	0·83	...	...	...	..	...	...	...	...	...	...	...
104	7 18 3·57	+ 24 42 6·9	56 42·28	15 27·59	+0·586	− 0·115	− 1·59	+ 4·7	7 17 14·46	+ 25 14 55·2	11·81	53·8
105	12 31 47·43	− 8 9 16·6	59 7·24	16 7·12	+0·533	− 0·260	− 1·45	+ 10·5	12 33 57·25	− 7 25 52·5	55·77	43·0
106	16 19 6·97	− 26 23 31·4	58 59·99	16 5·15	+0·648	− 0·080	− 1·75	+ 3·3	16 23 5·87	− 26 12 17·4	5·45	11·9
107	6·98	31·4	...	...	...	...	...	...	...	...	...	...
108	6·94	31·3	...	...	...	...	...	...	...	...	...	...
109	16 20 34·93	− 26 26 11·8	58 59·72	16 5·07	+0·649	− 0·077	− 1·75	+ 3·2	16 23 5·87	− 26 12 17·4	5·45	11·9
110	34·94	...	...	...	...	...	...	...	...	...	...	...
111	...	...	...	...	...	...	...	...	...	...	...	...
112	3 8 55·28	+ 23 7 25·1	54 17·86	14 48·22	+0·518	+ 0·130	− 1·41	− 5·2	3 7 60·51	+ 23 52 59·1	59·37	47·2
113	6 54 42·59	+ 25 44 56·3	56 25·61	15 23·05	+0·587	− 0·092	− 1·60	+ 3·7	6 52 29·15	+ 26 12 62·7	26·56	58·5
114	42·57	...	...	...	...	...	...	...	...	...	...	...
115	11 17 24·89	+ 1 20 46·1	59 37·06	16 15·25	+0·534	− 0·277	− 1·45	+ 11·1	11 18 47·69	+ 1 58 9·2	45·24	23·2
116	14 57 27·61	− 22 20 49·1	59 27·23	16 12·57	+0·616	− 0·167	− 1·67	+ 6·7	15 0 32·19	− 21 37 62·7	30·49	52·0
117	27·62	...	...	...	...	...	...	...	...	...	...	...
118	14 57 47·32	− 22 22 9·0	59 27·12	16 12·54	+0·616	− 0·167	− 1·67	+ 6·7	15 0 7·96	− 22 0 23·7	6·26	13·1
119	16 27 52·66	− 26 36 49·9	58 53·00	16 3·24	+0·647	− 0·069	− 1·76	+ 2·8	16 23 6·83	− 26 12 19·7	5·45	11·9
120	52·68	...	...	...	...	...	...	...	...	...	...	...
121	3 40 54·50	+ 24 47 7·2	54 12·86	14 46·86	+0·532	+ 0·102	− 1·44	− 4·1	3 39 23·15	+ 25 17 28·1	22·24	17·3*
122	3 41 24·95	+ 24 48 34·5	54 12·98	14 46·89	+0·532	+ 0·102	− 1·44	− 4·1	3 39 50·75	+ 25 38 68·5	49·83	57·6
123	3 41 48·95	+ 24 49 43·0	54 13·06	14 46·92	+0·532	+ 0·102	− 1·44	− 4·1	3 40 24·27	+ 25 31 34·8	23·35	24·0
124	—	—	—	—	—	—	—	—	—	—	—	—
125	3 42 52·33	+ 24 52 42·7	54 13·33	14 46·99	+0·532	+ 0·100	− 1·44	− 4·1	3 40 47·01	+ 25 18 65·6	46·09	54·8
126	6 2 38·50	+ 26 50 49·0	54 50·47	14 57·12	+0·564	− 0·035	− 1·54	+ 1·4	6 2 3·60	+ 27 48 55·8	2·17	47·9
127	6 2 52·25	+ 26 50 36·0	54 50·58	14 57·15	+0·564	− 0·035	− 1·54	+ 1·4	6 2 14·66	+ 27 25 54·5	13·23	46·7
128	6 2 55·03	+ 26 50 33·4	54 50·62	14 57·15	+0·564	− 0·035	− 1·54	+ 1·4	6 2 1·99	+ 27 50 13·2	0·56	5·2
129	6 7 59·21	+ 26 45 24·2	54 53·50	14 57·93	+0·564	− 0·040	− 1·54	+ 1·6	6 5 21·28	+ 27 9 25·6	19·84	18·0
130	6 8 28·76	+ 26 44 55·0	54 53·79	14 58·02	+0·564	− 0·042	− 1·54	+ 1·6	6 6 34·06	+ 27 27 33·6	32·61	26·0
131	8 43 21·16	+ 18 33 47·9	57 1·49	15 32·83	+0·541	− 0·187	− 1·49	+ 7·7	8 44 55·70	+ 19 12 55·3	53·44	58·3
132	...	...	...	...	...	...	...	...	...	...	...	...
133	11 15 8·49	+ 1 33 15·3	59 49·44	16 18·63	+0·537	− 0·274	− 1·49	+ 11·3	11 18 47·87	+ 1 58 7·2	45·24	23·2
134	15 7 30·79	− 22 43 21·2	61 12·11	16 41·17	+0·662	− 0·164	− 1·80	+ 6·7	15 10 27·74	− 22 1 22·7	24·69	6·1
135	30·76	21·1	...	...	...	...	...	...	...	...	...	...
136	16 12 28·21	− 25 48 43·5	60 45·52	16 33·92	+0·685	− 0·090	− 1·86	+ 3·7	16 14 58·66	− 25 20 55·8	55·61	43·3
137	5 48 20·13	+ 26 48 43·7	54 28·59	14 51·15	+0·561	− 0·022	− 1·53	+ 0·9	5 46 42·87	+ 27 35 64·9	41·86	57·7
138	20·15	...	...	...	...	...	...	...	...	...	...	...
139	5 48 31·82	+ 26 48 36·8	54 28·66	14 51·16	+0·561	− 0·022	− 1·53	+ 0·9	5 46 52·18	+ 27 35 23·2	51·17	16·0
140	...	...	...	...	...	...	...	...	...	...	...	...
141	5 48 51·30	+ 26 48 25·0	54 28·79	14 51·20	+0·561	− 0·022	− 1·53	+ 0·9	5 47 13·40	+ 27 30 27·0	12·38	19·8
142	7 38 38·87	+ 23 1 4·8	55 27·56	15 7·22	+0·544	− 0·129	− 1·49	+ 5·2	7 36 53·37	+ 23 31 19·1	51·81	16·5
143	7 40 14·64	+ 22 55 23·9	55 28·68	15 7·53	+0·544	− 0·129	− 1·49	+ 5·1	7 38 22·98	+ 23 35 32·0	21·41	29·4
144	9 22 22·33	+ 14 35 12·1	56 56·79	15 31·55	+0·517	− 0·212	− 1·43	+ 8·6	9 21 11·27	+ 15 22 29·3	9·27	34·5
145	10 10 16·73	+ 9 18 50·2	57 47·94	15 45·50	+0·513	− 0·239	− 1·42	+ 9·8	10 9 32·62	+ 9 43 16·3	30·45	26·0
146	19 6 48·25	− 24 35 30·5	59 31·42	16 13·72	+0·644	+ 0·116	− 1·76	− 4·7	19 9 20·06	− 24 21 16·2	16·71	16·6
147	48·18	30·7	...	...	...	...	...	...	...	...	...	...
148	7 22 59·39	+ 23 42 19·0	55 9·93	15 2·43	+0·547	− 0·115	− 1·50	+ 4·6	7 20 45·85	+ 24 7 61·4	44·55	58·4
149	9 3 31·12	+ 16 12 30·5	56 13·05	15 19·62	+0·514	− 0·197	− 1·42	+ 8·0	9 3 6·32	+ 16 50 5·2	4·68	8·2
150	9 53 45·15	+ 10 57 27·0	56 53·67	15 30·69	+0·503	− 0·227	− 1·39	+ 9·3	9 53 10·46	+ 11 26 57·4	8·65	64·4

121. Mean R.A. and Dec. from A.G.C.

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Cape Sid. Time.	G.M.T.	Remarks.
	1897.						h m s	h m s	
151	June 8	B.D. − 0° 2460...	9·2	D.D.	7 inch	I.	12 19 35·6	5 56 11·2	*g*.
152	8	Lalande 22052.	8·4	D.D.	7 inch	I.	12 48 59·0	6 25 29·8	*g*.
153	8	W.B. XI. 520.....	8·7	D.D.	7 inch	I.	13 2 14·1	6 38 42·8	g, not i, $0^s{\cdot}2$.
154	8	W.B. XI. 531.....	8·2	D.D.	7 inch	I.	13 29 26·4	7 5 50·6	*g*.
155	9	Lalande 23259.....	8·5	D.D.	7 inch	I.	11 26 49·4	4 59 37·8	g.
156	11	C.G.A. 19332.....	6·4	D.D.	Heliom.	F.	11 8 10·3	4 33 9·9	g.
157	11	,,	...	D.D.	7 inch	I.	9·5	9·1	g.
158	11	O.A. 13514.....	9·0	D.D.	7 inch	I.	11 17 9·9	4 42 8·0	fr.
159	11	Lalande 26150.....	5·7	D.D.	7 inch	I.	12 0 24·0	5 25 15·1	g.
160	15	Lacaille 7842	5·7	R.D.	7 inch	I.	14 42 48·4	7 51 29·2	g, close to terminator.
161	July 2	Mayer 394.....	6·5	D.D.	Heliom.	F.	12 26 56·2	4 29 8·7	*g*, red.
162	2	,,	...	D.D.	7 inch	I.	55·7	8·2	*g*, red.
163	2	B.D. + 17° 1975..	9·5	D.D.	7 inch	I.	12 41 15·3	4 43 25·5	fr., limb brighter than star.
164	2	Mayer 397.....	6·3	D.D.	7 inch	I.	13 15 59·4	5 18 3·9	*g*.
165	3	18 Leonis.....	5·8	D.D.	Heliom.	F.	13 50 29·9	5 48 32·8	*g*.
166	3	,,	...	D.D.	7 inch	I.	29·6	32·5	*g*.
167	3	W.B. IX. 846.....	9·4	D.D.	Heliom.	F.	13 53 1·9	5 51 4·4	fr.
168	3	,,	...	D.D.	7 inch	I.	0·7	3·2	p.
169	4	Lalande 20454.....	9·4	D.D.	7 inch	I.	12 43 47·6	4 38 5·5	g.
170	5	B.D. + 1° 2557...	9·4	D.D.	7 inch	I.	13 43 45·9	5 33 58·1	*g*, gl.
171	5	Cape 1900, 1543...	10	D.D.	7 inch	I.	13 47 46·4	5 37 58·0	p, ? $1^s\pm$.
172	5	Piazzi XI. 50.....	6·3	D.D.	7 inch	I.	13 53 46·0	5 43 56·6	*g*.
173	6	Lalande 22861	8·0	D.D.	7 inch	I.	13 15 12·8	5 1 33·8	*g*, gl.
174	10	Lacaille 6621.....	5·4	D.D.	7 inch	I.	12 53 14·9	4 23 55·8	*g*.
175	12	λ Sagittarii.....	2·9	D.D.	7 inch	F.	22 9 49·1	13 31 7·0	*g*.
176	Aug. 2	W.B. XI. 910.....	8·5	D.D.	7 inch	I.	15 43 14·3	5 43 1·5	*g*, gl.
177	2	B.D. −3° 3219....	9·4	D.D.	7 inch	I.	15 45 27·6	5 45 14·4	g.
178	2	B.D. −3° 3220.....	9·4	D.D.	7 inch	I.	15 57 51·1	5 57 35·8	*g*.
179	4	B.D. −15° 3728...	9·0	D.D.	7 inch	I.	15 16 34·8	5 8 34·5	*g*, seemed inside limb.
180	4	83 Virginis.....	5·6	D.D.	7 inch	I.	15 43 25·7	5 35 21·0	c, i.
181	5	Mayer 596	6·4	D.D.	7 inch	I.	18 37 49·0	8 25 19·8	*g*.
182	5	B.D. −20° 4089...	9·5	D.D.	7 inch	I.	18 45 1·5	8 32 31·1	g, *d*.
183	5	B.D. −20° 4088...	9·2	D.D.	7 inch	I.	18 47 18·6	8 34 47·8	*g*.
184	5	Mayer 597.....	6·1	D.D.	7 inch	I.	19 4 23·5	8 51 49·9	*g*.
185	7	Lacaille 6975	6·9	D.D.	7 inch	I.	16 1 57·8	5 42 2·3	*g*.
186	7	Lalande 30556.....	7·4	D.D.	7 inch	I.	18 34 22·4	8 14 1·9	c.
187	7	C.Z. XVI. 3187 ...	8·5	D.D.	7 inch	I.	20 5 2·1	9 44 26·8	*g*, gl., Dark limb seen, age $9^{d}{\cdot}2$, elongation $117°\pm$.
188	8	C.Z. XVIII. 2990.	8·5	D.D.	7 inch	I.	17 1 21·8	6 37 20·7	gl., Near S. point, Comes 10 mag. S.p.
189	12	λ Capricorni	5·5	R.D.	7 inch	I.	18 15 36·7	7 35 39·7	fr., looking at exact spot. Note.
190	Sept. 2	Cor. D. −23° 12320	9·6	D.D.	7 inch	I.	18 49 51·7	6 47 15·1	*g*.
191	2	C.P.D. −23° 6191	9·3	D.D.	7 inch	I.	18 57 13·3	6 54 35·5	g.
192	2	C.P.D. −23° 6188	9·3	D.D.	7 inch	I.	19 9 1·5	7 6 21·7	fr., near S. point.
193	2	Lalande 28187.....	8·5	D.D.	7 inch	I.	19 31 9·3	7 28 25·9	*g*.
194	2	C.P.D. −23° 6193	9·9	D.D.	7 inch	I.	19 38 32·5	7 35 47·9	*g*.
195	2	C.P.D. −23° 6199	9·5	D.D.	7 inch	I.	19 39 31·5	7 36 46·7	g.
196	2	Lalande 28222.....	7·3	D.D.	7 inch	I.	20 2 23·9	7 59 35·4	*g*.
197	2	Lacaille 6414.....	7·5	D.D.	7 inch	I.	20 22 47·3	8 19 55·5	*g*.
198	2	Lalande 28259.....	8·9	D.D.	7 inch	I.	20 31 32·5	8 28 39·2	*g*.
199	3	C.G.A. 22365	8·5	D.D.	7 inch	I.	19 4 28·5	6 57 53·6	*g*.
200	5	O.A. 15698.....	7·8	D.D.	6 inch	F.	22 24 31·6	10 9 32·1	*g*.

189. Trying, as moon was only a few hours past full.

Digitized by Google

No.	Moon's Tabular				Var. in 1ˢ.		Newcomb's Corr.		Star's Apparent		Sec. of Mean	
	R.A.	Dec.	Par.	S.-diam.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.
	h m s	° ′ ″	″	″	″	″	s	″	h m s	° ′ ″	s	″
151	11 31 41·35	− 1 0 53·3	58 25·23	15 55·66	+0·511	− 0·259	− 1·41	+ 10·5	11 32 3·31	− 0 30 47·8	1·10	32·9
152	11 32 41·28	− 1 8 28·1	58 26·22	15 55·94	+0·511	− 0·259	− 1·41	+ 10·5	11 32 40·24	− 0 34 66·7	38·02	51·8
153	11 33 8·33	− 1 11 53·2	58 26·66	15 56·05	+0·512	− 0·259	− 1·41	+ 10·5	11 32 12·91	− 0 54 65·8	10·70	50·7
154	11 34 3·87	− 1 18 54·5	58 27·56	15 56·30	+0·512	− 0·259	− 1·42	+ 10·5	11 32 47·07	− 1 1 72·9	44·86	57·8
155	12 19 43·08	− 6 59 23·3	59 10·06	16 7·88	+0·532	− 0·258	− 1·47	+ 10·5	12 21 3·07	− 6 45 53·2	0·61	35·0
156	14 7 48·18	− 18 23 4·1	60 28·68	16 29·32	+0·611	− 0·209	− 1·68	+ 8·6	14 11 25·20	− 18 6 48·0	22·03	27·3
157	48·15	3·9	...	...	...	...	...	...	...	...	...	...
158	14 8 10·08	− 18 24 56·9	60 28·90	16 29·39	+0·611	− 0·209	− 1·68	+ 8·6	14 11 43·02	− 18 0 69·8	39·85	49·2
159	14 9 55·51	− 18 33 57·2	60 29·81	16 29·63	+0·611	− 0·209	− 1·69	+ 8·5	14 12 59·55	− 18 14 41·2	56·38	20·5
160	18 36 2·86	− 25 40 5·7	60 18·96	16 26·68	+0·675	+ 0·087	− 1·86	− 3·5	18 38 33·80	− 25 6 52·0	29·66	50·6
161	8 51 41·12	+ 17 12 1·7	56 9·58	15 18·68	+0·522	− 0·190	− 1·44	+ 7·8	8 49 36·37	+ 17 37 21·6	34·86	23·6
162	41·10	1·8	...	...	...	...	...	...	...	...	...	...
163	8 52 10·89	+ 17 9 18·2	56 9·87	15 18·75	+0·521	− 0·191	− 1·44	+ 7·8	8 50 25·58	+ 17 41 58·7	24·07	60·7
164	8 53 23·05	+ 17 2 40·5	56 10·59	15 18·96	+0·521	− 0·191	− 1·44	+ 7·8	8 51 22·41	+ 17 32 21·8	20·90	23·9
165	9 43 38·09	+ 11 56 46·0	56 42·19	15 27·57	+0·506	− 0·223	− 1·40	+ 9·1	9 40 52·04	+ 12 16 58·6	50·43	64·1
166	38·08	46·1	...	...	...	...	...	...	...	...	...	...
167	9 43 43·20	+ 11 56 12·2	56 42·26	15 27·58	+0·506	− 0·223	− 1·40	+ 9·1	9 41 15·58	+ 12 17 35·0	13·97	40·4
168	43·16	12·5	...	...	...	...	...	...	...	...	...	...
169	10 29 24·81	+ 6 37 10·4	57 13·15	15 36·01	+0·498	− 0·243	− 1·38	+ 9·9	10 28 37·72	+ 7 9 33·6	35·99	42·2
170	11 19 9·77	+ 0 24 27·6	57 48·21	15 45·58	+0·501	− 0·254	− 1·38	+ 10·3	11 18 15·67	+ 1 1 20·3	13·77	32·7
171	11 19 17·79	+ 0 23 26·7	57 48·31	15 45·60	+0·501	− 0·254	− 1·38	+ 10·3	11 17 48·76	+ 0 42 11·5	46·86	24·0
172	11 19 29·77	+ 0 21 55·6	57 48·45	15 45·64	+0·501	− 0·254	− 1·38	+ 10·3	11 18 3·39	+ 0 41 38·1	1·49	50·6
173	12 6 45·76	− 5 34 9·0	58 21·69	15 54·69	+0·515	− 0·254	− 1·42	+ 10·3	12 6 4·81	− 5 20 75·3	2·69	59·5
174	15 48 52·91	− 24 56 34·2	60 8·98	16 23·96	+0·661	− 0·110	− 1·81	+ 4·5	15 52 27·99	− 24 32 20·8	24·21	3·8
175	18 24 13·90	− 26 1 22·0	60 3·49	16 22·46	+0·673	+ 0·075	− 1·85	− 3·0	18 21 41·35	− 25 28 45·3	36·85	42·1
176	11 56 58·34	− 4 23 23·3	58 19·75	15 54·17	+0·515	− 0·256	− 1·42	+ 10·5	11 55 13·56	− 3 58 30·1	11·71	16·7
177	11 57 2·89	− 4 23 57·4	58 19·78	15 54·18	+0·515	− 0·256	− 1·42	+ 10·5	11 55 16·74	− 3 59 20·5	14·89	7·1
178	11 57 28·33	− 4 27 7·4	58 19·99	15 54·24	+0·515	− 0·256	− 1·42	+ 10·5	11 55 41·50	− 3 54 57·5	39·64	44·1
179	13 38 38·62	− 15 52 31·6	58 59·66	16 5·04	+0·564	− 0·219	− 1·55	+ 9·0	13 38 16·60	− 15 27 71·0	14·18	52·8
180	13 39 39·06	− 15 58 22·8	58 59·97	16 5·14	+0·565	− 0·218	− 1·55	+ 8·9	13 38 58·73	− 15 39 57·9	56·31	39·6
181	14 42 26·12	− 21 14 33·7	59 15·88	16 9·48	+0·605	− 0·172	− 1·66	+ 6·9	14 40 23·19	− 20 44 39·6	20·28	20·7
182	14 42 43·53	− 21 15 47·5	59 15·95	16 9·50	+0·607	− 0·170	− 1·66	+ 6·9	14 40 35·07	− 20 44 31·8	32·16	13·0
183	14 42 49·06	− 21 16 10·9	59 15·96	16 9·50	+0·607	− 0·170	− 1·66	+ 6·9	14 40 33·22	− 20 42 52·4	30·31	33·6
184	14 43 30·38	− 21 19 5·2	59 16·11	16 9·54	+0·607	− 0·170	− 1·66	+ 6·9	14 41 25·17	− 20 53 52·1	22·25	33·2
185	16 37 55·36	− 26 26 58·8	59 27·38	16 12·62	+0·662	− 0·051	− 1·81	+ 2·2	16 39 31·02	− 26 27 44·8	27·10	31·0
186	16 44 38·50	− 26 34 14·0	59 28·71	16 12·97	+0·664	− 0·045	− 1·81	+ 1·8	16 43 52·47	− 26 33 57·4	48·51	43·9
187	16 48 38·72	− 26 37 59·2	59 28·71	16 12·97	+0·665	− 0·038	− 1·82	+ 1·7	16 46 37·49	− 26 34 50·7	33·51	38·5
188	17 44 20·67	− 26 46 17·9	59 25·77	16 12·17	+0·666	+ 0·027	− 1·83	− 1·1	17 45 42·72	− 26 52 8·5	38·34	0·9
189	21 39 27·06	− 12 23 35·1	57 52·17	15 46·66	+0·529	+ 0·231	− 1·49	− 9·5	21 40 63·81	− 11 50 8·4	59·48	27·1
190	15 24 37·44	− 23 43 59·0	59 24·40	16 11·80	+0·632	− 0·131	− 1·74	+ 5·4	15 22 53·74	− 23 30 55·3	50·87	38·6
191	15 24 55·99	− 23 44 56·8	59 24·38	16 11·79	+0·632	− 0·131	− 1·74	+ 5·4	15 23 7·71	− 23 20 48·5	4·84	31·9
192	15 25 25·76	− 23 46 29·1	59 24·33	16 11·78	+0·632	− 0·131	− 1·74	+ 5·3	15 22 44·33	− 23 42 27·6	41·46	10·9
193	15 26 21·60	− 23 49 21·5	59 24·23	16 11·75	+0·632	− 0·131	− 1·74	+ 5·3	15 23 51·67	− 23 41 36·5	48·79	19·8
194	15 26 40·25	− 23 50 18·8	59 24·22	16 11·75	+0·633	− 0·128	− 1·74	+ 5·3	15 23 43·98	− 23 44 33·2	41·10	16·5
195	15 26 42·73	− 23 50 26·4	59 24·22	16 11·75	+0·633	− 0·128	− 1·74	+ 5·3	15 24 18·70	− 23 39 69·0	15·82	52·3
196	15 27 40·50	− 23 53 22·6	59 24·12	16 11·72	+0·633	− 0·128	− 1·74	+ 5·3	15 25 6·54	− 23 18 24·0	3·66	7·5
197	15 28 32·03	− 23 55 58·5	59 24·05	16 11·70	+0·633	− 0·128	− 1·74	+ 5·2	15 26 13·47	− 23 31 62·1	10·58	45·5
198	15 28 54·16	− 23 57 5·2	59 24·01	16 11·69	+0·633	− 0·128	− 1·75	+ 5·2	15 26 32·49	− 23 34 35·6	29·59	19·1
199	16 26 54·21	− 26 6 38·3	59 16·27	16 9·58	+0·653	− 0·064	− 1·80	+ 2·7	16 25 39·43	− 25 47 34·1	36·04	20·0
200	18 40 25·41	− 25 26 54·0	58 44·04	16 0·79	+0·636	+ 0·087	− 1·77	− 3·5	18 38 33·94	− 25 6 53·6	29·66	50·6

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Cape Sid. Time.	G.M.T.	Remarks.
	1897.						h m s	h m s	
201	Sept. 5	O.A. 15698.....	7·8	D.D.	7 inch	I.	22 24 31·3	10 9 31·8	*g*.
202†	8	Piazzi XXI. 125 ...	7·3	D.D.	7 inch	I.	18 0 3·9	5 34 0·0	g.
203	8	Piazzi XXI. 128 ...	8·0	D.D.	7 inch	I.	18 15 14·2	5 49 7·8	*g*.
204	9	ρ Aquarii.....	5·3	D.D.	6 inch	F.	19 53 47·3	7 23 28·8	*g*.
205	9	,,	...	D.D.	7 inch	I.	46·3	27·8	*g*.
206	9	Piazzi XXII. 81 ...	6·0	D.D.	6 inch	F.	22 38 23·9	10 7 38·5	*g*.
207	9	,,	...	D.D.	7 inch	I.	23·0	37·6	*g*.
208	13	η Piscium	3·8	D.B.	7 inch	I.	23 41 37·8	10 54 58·4	*g*. Well within $0^s.5$.
209	13	,,	...	R.D.	6 inch	F.	0 29 31·6	11 42 44·3	*g*.
210	13	,,	...	R.D.	7 inch	I.	32·1	44·8	*g*.
211	14	θ Arietis.....	5·6	R.D.	6 inch	F.	0 20 7·7	11 29 26·1	?.
212	14	,,	...	R.D.	7 inch	I.	7·1	25·5	*g*.
213	18	136 Tauri.....	4·6	R.D.	7 inch	F.	5 9 50·7	16 2 38·0	g.
214	29	B.D. $-22°$ 3902...	9·4	D.D.	7 inch	I.	19 15 24·6	5 26 34·3	fr.
215	29	O.A. 14293	9·3	D.D.	7 inch	I.	19 30 18·4	5 41 25·7	*g*.
216	29	O.A. 14294.....	9·1	D.B.	7 inch	I.	19 53 50·4	6 4 53·8	g, for so faint a star. Note.
217	29	B.D. $-22°$ 3908...	8·5	D.D.	7 inch	I.	20 7 16·7	6 18 17·9	β 809, gl., $0^s.5$. Mean observed.
218	30	C.Z. XVI. 260.....	8·0	D.D.	7 inch	I.	19 12 22·5	5 19 36·8	*g*.
219	30	C.Z. XV. 333	9·7	D.D.	7 inch	I.	19 24 48·1	5 32 0·3	g.
220	30	C.Z. XVI. 509.....	9·3	D.D.	7 inch	I.	20 39 58·7	6 46 58·6	g.
221	30	Mayer 656.....	6·0	D.D.	7 inch	I.	20 47 15·5	6 54 14·2	*g*.
222	30	C.Z. XVI. 526.....	9·8	D.D.	7 inch	I.	20 47 36·3	6 54 35·0	fr.
223	Oct. 1	A. Ophiuchi (N.*).	5·4	D.D.	7 inch	I.	18 43 17·1	4 46 40·2	g, daylight.
224	1	A. Ophiuchi (S.*)..	5·4	D.D.	7 inch	I.	18 43 17·5	4 46 40·6	g, daylight.
225	2	C.Z. XVIII. 885...	8·7	D.D.	7 inch	I.	20 24 36·4	6 23 47·0	*g*.
226	2	C.P.D. $-25°$ 6507	9·6	D.D.	7 inch	I.	22 12 50·9	8 11 43·8	g, gl.
227†	2	Cor. D. $-25°$ 13101	9·5	D.D.	7 inch	I.	22 20 48·9	8 19 40·5	fr.
228	2	Cor. D. $-25°$ 13109	9·7	D.D.	7 inch	I.	22 35 32·9	8 34 22·1	d.
229	2	C.P.D. $-25°$ 6515	9·5	D.D.	7 inch	I.	22 38 43·5	8 37 32·1	*g*.
230	2	C.P.D. $-25°$ 6516	9·7	D.D.	7 inch	I.	22 42 48·6	8 41 36·6	*g*.
231	3	C.P.D. $-23°$ 7453	9·6	D.D.	7 inch	I.	19 59 54·4	5 55 13·2	g.
232	3	C.G.A. 26565.....	8·6	D.D.	7 inch	I.	20 52 27·7	6 47 37·8	*g*, gl.
233	3	C.Z. XIX. 744.....	8·8	D.D.	7 inch	I.	21 2 11·8	6 57 20·3	*g*.
234	3	C.G.A. 26590.....	8·0	D.D.	7 inch	I.	21 24 31·0	7 19 35·9	*g*.
235	3	C.P.D. $-23°$ 7475	9·0	D.D.	7 inch	I.	21 42 49·3	7 37 51·2	d.
236	5	Lalande 41138.....	8·4	D.D.	7 inch	I.	20 19 8·1	6 6 31·9	g.
237	8	16 Piscium	5·7	D.D.	6 inch	F.	19 57 10·1	5 32 49·8	p, F, definition very bad.
238	8	,,	...	D.D.	7 inch	I.	9·3	49·0	*g*.
239	28	Lacaille 7070	8	D.D.	7 inch	I.	22 55 42·9	7 12 15·2	*g*, reddish.
240	31	B.D. $-20°$ 5814..	8·7	D.D.	7 inch	I.	22 49 2·9	6 53 48·5	*g*, reddish.
241	31	B.D. $-20°$ 5812..	9·6	D.D.	7 inch	I.	22 57 7·9	7 1 52·2	p, $1^s\pm$.
242	Nov. 1	Lalande 40724.....	8·5	D.D.	7 inch	I.	0 52 51·8	8 53 21·2	Very bad definition, p. Note.
243	4	B.D. $+0°$ 4996...	9·2	D.D.	7 inch	I.	23 29 55·2	7 18 50·5	Unexpected.
244	4	κ Piscium.....	4·9	D.D.	10 inch	F.	23 44 36·5	7 33 29·4	g.
245	4	,,	...	D.D.	7 inch	I.	36·8	29·7	*g*, i.
246	4	9 Piscium.....	7·2	D.D.	7 inch	I.	23 53 37·1	7 42 28·5	*g*, gl., orange.
247	26	C.P.D. $-24°$ 6482	9·5	D.D.	7 inch	I.	23 58 39·6	6 21 0·1	g.
248	26	O.A. 18524.....	9·2	D.D.	7 inch	I.	0 3 43·3	6 26 3·2	fr.
249	26	C.Z. XVIII. 1972.	9·5	D.D.	7 inch	I.	0 11 38·1	6 33 56·5	fr.
250*	26	C.P.D. $-24°$ 6485	9·5	D.D.	7 inch	I.	0 16 33·1	6 38 50·7	i, ? — 1^s. S. of coarse pair. [S.T. increased 1^m].

202. Identified by observer as Lal. 41705.
216. Disappeared at a little peak $30''\pm$ within bright cusp, length of normal through bright limb about 6″ or 10″; observation made easy by presence of a star 0·5 mag. brighter, closely Nf.
227. Identified by observer as Cor. D. $-25°$·13098.
242. Near N. terminator, may be several seconds early.

Digitized by Google

No.	Moon's Tabular,				Var. in 1s.		Newcomb's Corr.		Star's Apparent,		Sec. of Mean,	
	R.A.	Dec.	Par.	S.-diam.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.
	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
201	25·40	...	...	...	...	...	...	...	...	...	...	...
202	21 18 27·03	− 14 34 43·0	57 36·49	15 42·39	+0·534	+ 0·217	− 1·48	− 8·9	21 21 49·74	− 14 1 45·7	45·28	63·3*
203	21 18 59·39	− 14 31 26·3	57 36·18	15 42·31	+0·534	+ 0·217	− 1·48	− 8·9	21 22 27·11	− 14 8 20·9	22·64	38·3
204	22 12 0·50	− 8 41 42·2	57 4·20	15 33·58	+0·504	+ 0·236	− 1·40	− 9·8	22 14 51·18	− 8 19 55·2	46·77	77·6
205	0·47	42·4	...	...	...	...	...	...	...	...	...	...
206	22 17 30·46	− 8 2 45·8	57 0·62	15 32·60	+0·501	+ 0·238	− 1·40	− 9·8	22 18 12·38	− 7 42 32·6	8·00	55·3
207	30·43	46·0	...	...	...	...	...	...	...	...	...	...
208	1 23 42·01	+ 14 14 9·4	54 55·88	14 58·60	+0·485	+ 0·198	− 1·34	− 8·2	1 25 62·45	+ 14 48 79·3	58·27	53·4
209	1 25 14·62	+ 14 23 34·8	54 55·06	14 58·37	+0·485	+ 0·197	− 1·35	− 8·2	1 25 62·45	+ 14 48 79·3	58·27	53·4
210	14·64	34·9	...	...	...	...	...	...	...	...	...	...
211	2 12 1·68	+ 18 43 35·2	54 32·99	14 52·35	+0·499	+ 0·167	− 1·38	− 6·9	2 12 27·87	+ 19 25 51·7	23·70	28·6
212	1·66	35·1	...	...	...	...	...	...	...	...	...	...
213	5 46 39·97	+ 26 33 23·6	54 30·96	14 51·80	+0·556	− 0·024	− 1·54	+ 1·0	5 46 54·91	+ 27 35 21·2	51·17	16·0
214	15 4 36·37	− 22 26 1·2	60 11·68	16 24·68	+0·639	− 0·156	− 1·77	+ 6·4	15 1 52·76	− 22 18 18·6	50·39	3·5
215	15 5 14·37	− 22 28 18·7	60 11·57	16 24·66	+0·639	− 0·153	− 1·77	+ 6·4	15 2 62·02	− 21 59 62·4	59·65	47·4
216	15 6 14·43	− 22 31 54·8	60 11·38	16 24·60	+0·639	− 0·153	− 1·78	+ 6·3	15 3 10·27	− 21 50 59·2	7·90	44·2
217	15 6 48·75	− 22 33 57·5	60 11·29	16 24·58	+0·639	− 0·153	− 1·78	+ 6·3	15 4 4·83	− 22 19 51·7	2·45	36·6
218	16 6 54·05	− 25 20 42·1	59 57·23	16 20·75	+0·662	− 0·088	− 1·83	+ 3·6	16 4 51·42	− 24 50 68·8	48·64	55·12
219	16 7 26·89	− 25 21 46·9	59 57·05	16 20·70	+0·663	− 0·085	− 1·83	+ 3·6	16 5 46·72	− 25 9 39·2	43·93	25·6
220	16 10 45·65	− 25 28 8·9	59 55·97	16 20·41	+0·663	− 0·082	− 1·83	+ 3·4	16 8 29·02	− 25 10 45·1	26·21	31·5
221	16 11 4·91	− 25 28 45·0	59 55·87	16 20·38	+0·663	− 0·082	− 1·83	+ 3·4	16 8 41·70	− 25 12 69·5	38·88	55·9
222	16 11 5·83	− 25 28 46·7	59 55·86	16 20·37	+0·663	− 0·082	− 1·83	+ 3·4	16 8 43·65	− 25 12 32·5	40·84	18·9
223	17 9 23·30	− 26 32 58·4	59 34·31	16 14·50	+0·666	− 0·014	− 1·85	+ 0·6	17 9 3·96	− 26 27 11·6	0·76	0·3
224	17 9 23·32	− 26 32 58·4	59 34·31	16 14·50	+0·666	− 0·014	− 1·85	+ 0·6	17 9 3·96	− 26 27 16·1	0·76	4·9
225	18 16 54·12	− 25 55 51·3	59 2·70	16 5·89	+0·648	+ 0·061	− 1·80	− 2·6	18 15 11·93	− 25 28 27·2	8·27	22·3
226	18 21 33·15	− 25 48 53·4	59 0·33	16 5·24	+0·645	+ 0·066	− 1·79	− 2·8	18 19 37·31	− 25 32 23·6	33·62	19·1
227	18 21 53·65	− 25 48 21·3	59 0·15	16 5·19	+0·645	+ 0·066	− 1·79	− 2·8	18 19 7·07	− 25 13 61·9	3·39	57·5
228	18 22 31·55	− 25 47 21·6	58 59·81	16 5·09	+0·644	+ 0·069	− 1·79	− 2·8	18 19 43·29	− 25 12 17·0	39·6	12·7
229	18 22 39·72	− 25 47 8·6	58 59·75	16 5·07	+0·644	+ 0·069	− 1·79	− 2·8	18 20 30·47	− 25 30 59·5	26·78	55·1
230	18 22 50·22	− 25 46 51·9	58 59·68	16 5·05	+0·644	+ 0·069	− 1·79	− 2·9	18 20 41·72	− 25 24 36·5	38·03	32·2
231	19 16 18·26	− 23 43 58·0	58 30·57	15 57·13	+0·613	+ 0·123	− 1·71	− 5·2	19 16 40·20	− 23 40 4·5	36·23	6·0
232	19 18 26·71	− 23 37 28·3	58 29·32	15 56·78	+0·612	+ 0·125	− 1·71	− 5·3	19 17 55·29	− 23 15 35·8	51·33	37·5
233	19 18 50·47	− 23 36 15·4	58 29·08	15 56·72	+0·612	+ 0·125	− 1·71	− 5·3	19 18 25·43	− 23 22 22·3	21·46	24·1
234	19 19 44·91	− 23 33 27·5	58 28·58	15 56·58	+0·612	+ 0·125	− 1·71	− 5·3	19 18 58·20	− 23 14 29·2	54·24	31·1
235	19 20 29·51	− 23 31 9·0	58 28·14	15 56·46	+0·610	+ 0·128	− 1·71	− 5·3	19 19 32·02	− 23 20 19·2	28·05	21·2
236	21 6 45·40	− 15 34 45·0	57 23·01	15 38·71	+0·534	+ 0·206	− 1·49	− 8·5	21 8 6·80	− 15 4 4·2	2·58	19·3
237	23 28 28·68	+ 0 45 58·9	55 51·43	15 13·74	+0·472	+ 0·236	− 1·31	− 9·7	23 31 12·24	+ 1 31 78·4	7·91	50·3
238	28·65	58·7	...	...	...	...	...	...	...	...	...	...
239	16 54 53·23	− 26 12 47·5	60 38·85	16 32·09	+0·690	− 0·032	− 1·90	+ 1·3	16 51 58·41	− 25 53 65·8	55·61	55·9
240	20 1 44·50	− 20 43 47·3	58 36·37	15 58·70	+0·591	+ 0·165	− 1·66	− 6·8	20 0 31·71	− 20 26 4·1	28·07	10·3
241	20 2 3·53	− 20 42 27·3	58 36·00	15 58·60	+0·591	+ 0·165	− 1·66	− 6·8	20 0 24·29	− 20 12 35·9	20·66	42·2
242	21 0 32·42	− 15 53 56·8	57 45·15	15 44·75	+0·542	+ 0·203	− 1·52	− 8·3	20 57 34·29	− 15 14 2·0	30·51	15·0
243	23 20 44·10	− 0 1 1·9	55 47·06	15 12·55	+0·470	+ 0·233	− 1·31	− 9·6	23 21 22·82	+ 0 39 63·7	18·67	36·5
244	23 21 11·61	+ 0 2 22·6	55 46·72	15 12·45	+0·469	+ 0·232	− 1·31	− 9·6	23 21 43·32	+ 0 41 57·3	39·15	30·2
245	11·62	22·7	...	...	...	...	...	...	...	...	...	...
246	23 21 28·48	+ 0 4 27·9	55 46·52	15 12·40	+0·469	+ 0·232	− 1·31	− 9·6	23 21 62·36	+ 0 33 51·3	58·16	24·2
247	18 37 16·12	− 24 54 16·6	60 41·27	16 32·76	+0·677	+ 0·091	− 1·90	− 3·9	18 34 19·99	− 24 13 57·1	16·90	55·3
248	18 37 29·79	− 24 53 48·7	60 41·13	16 32·72	+0·677	+ 0·091	− 1·90	− 3·9	18 34 24·46	− 24 11 43·8	21·37	42·0
249	18 37 51·14	− 24 53 5·0	60 40·91	16 32·66	+0·676	+ 0·094	− 1·90	− 3·9	18 35 19·81	− 24 28 8·2	16·71	·6·4
250	18 38 4·41	− 24 52 37·7	60 40·78	16 32·62	+0·676	+ 0·094	− 1·90	− 3·9	18 34 53·62	− 24 8 55·0	50·53	53·3

202. Difference of R.A. and Dec. from No. 203 taken from *Lick Publication*, VI.

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Cape Sid. Time.	G.M.T.	Remarks.
	1897.						h m s	h m s	
251	Nov. 26	Lalande 34586.....	8 o	D.D.	7 inch	I.	o 17 25·9	6 39 43·3	*g.*
252	26	C.Z. XVIII. 2042..	9·1	D.D.	7 inch	I.	o 47 4·1	7 9 16·7	*p.* Only retained as S. star of set.
253	26	Lalande 34627.....	7·7	D.D.	7 inch	I.	o 53 0·1	7 15 11·7	*g.*
254	28	B.D. — 17° 6062..	9·8	D.D.	7 inch	I.	o 37 29·0	6 51 51·3	fr.
255	28	B.D. — 17° 6065..	9·3	D.D.	7 inch	L.	o 48 23·0	7 2 43·5	d.
256	28	O.A. 20783.....	9·2	D.D.	7 inch	L.	1 4 11·5	7 18 29·5	g.
257	28	B.D. — 17° 6068..	9·5	D.D.	7 inch	I.	1 11 7·0	7 25 23·8	d.
258	28	O.A. 20804.....	9·5	D.D.	7 inch	I.	1 40 0·0	7 54 12·1	fr.
259	29	Lalande 42005.....	8·6	D.D.	7 inch	I.	o 5 39·7	6 16 11·3	*g.*
260	29	B.D. — 12° 6040..	9·6	D.D.	7 inch	I.	o 57 50·8	7 8 13·9	*d.*
261	29	Lalande 42059.....	9·1	D.D.	7 inch	I.	1 3 21·6	7 13 43·8	g.
262	29	Lalande 42073.....	7·7	D.D.	7 inch	I.	1 13 44·4	7 24 3·9	*g*, orange yellow.
263	29	B.D. — 11° 5632..	8·5	D.D.	7 inch	I.	1 52 18·9	8 2 33·1	g, gl.
264†	30	See Note.	9·0	D.D.	7 inch	I.	o 47 11·2	6 53 40·1	*g*, P = 50° ±
265	Dec. 1	Lalande 45420.....	7·7	D.D.	7 inch	I.	o 58 20·8	7 o 52·o	*g*, yellow.
266	2	Lalande 47048.....	8·5	D.D.	7 inch	I.	2 14 32·7	8 12 55·5	*g.*
267	4	W.B. I. 405.....	8·3	D.D.	7 inch	I.	1 59 50·5	7 50 23·9	*g.*
268	4	,,	...	D.D.	10 inch	L.	50·9	24·3	g.
269	5	θ Arietis	5·6	D.D.	Heliom.	F.	o 56 47·3	6 43 35·1	g.
270	5	,,	5·6	D.D.	10 inch	L.	46·5	34·3	g.
271	5	,,	...	D.D.	7 inch	I.	46·7	34·5	*g.*
272	13	π Cancri.....	5·6	R.D.	7 inch	F.	7 36 38·o	12 50 53·o	g.
273	19	C.G.A. 19332.....	6·4	R.D.	Heliom.	F.	9 56 30·1	14 46 46·7	*g.*
274	19	O.A. 13514.....	9·o	R.D.	Heliom.	F.	10 1 3·7	14 51 19·6	g.
275	26	W.B. XXI. 101....	8·8	D.D.	7 inch	I.	2 6 47·4	6 30 49·6	*g.*
276	26	Lalande 41246.....	6·5	D.D.	10 inch	F.	3 5 37·6	7 29 30·1	*g.*
277	26	,,	...	D.D.	7 inch	I.	37·4	29·9	fr.
278	26	W.B. XXI. 157 ...	9·2	D.D.	7 inch	I.	3 5 49·2	7 29 41·7	g.
279	28	B.D. — 2° 5856...	9·7	D.D.	7 inch	I.	2 57 43·6	7 13 45·6	fr.
280	28	Lalande 44904.....	6·4	D.D.	7 inch	I.	3 57 22·1	8 13 14·3	*g.*
281	30	W.B. o. 351.....	9·o	D.D.	7 inch	I.	2 41 34·4	6 49 47·2	p. } Bad definition, near N. pole,
282	30	Lalande 661.....	8·o	D.D.	7 inch	I.	3 1 57·6	7 10 7·1	g. } seemed to hang for some time.
	1898.								
283	Jan. 3	Lalande 6915.....	8·2	D.D.	7 inch	I.	4 39 37·9	8 31 47·7	*g.*
284	10	18 Leonis.....	5·8	R.D.	Heliom.	F.	6 24 37·8	9 48 59·o	g.
285	10	,,	...	R.D.	10 inch	L.	38·o	59·2	
286	10	,,	...	R.D.	7 inch	I.	37·5	58·7	g.
287	10	19 Leonis.....	6·4	R.D.	10 inch	L.	7 17 55·o	10 42 7·5	
288	10	,,	...	R.D.	7 inch	I.	54·5	7·o	fr.
289	12	Piazzi XI. 50.....	6·3	R.D.	7 inch	F.	9 1 42·1	12 17 45·8	*g.*
290	16	Piazzi XIV. 212..	7·6	R.D.	7 inch	F.	12 13 29·5	15 13 18·1	*g.* Preceding star.
291	16	Piazzi XIV. 212...	5·7	R.D.	7 inch	F.	12 14 3·4	15 13 51·9	*g.* Following star.
292	28	3 Arietis.....	6·4	D.D.	7 inch	I.	4 3 56·8	6 17 54·7	fr, gl, c, daylight.
293†	31	See note.....	8·5	D.D.	7 inch	I.	5 9 31·4	7 11 30·8	*d.*
294	Feb. 8	p^4 Leonis.....	5·6	R.D.	7 inch	I.	8 2 49·4	9 32 53·1	3^m after prediction. Note.
295	13	C.Z. XV. 2179.....	9·1	R.D.	7 inch	I.	13 26 7·o	14 35 38·2	? 1^s in error.
296	13	C.G.A. 21222.....	8·8	R.D.	7 inch	I.	13 32 45·o	14 42 15·2	*g.*
297	13	C.G.A. 21216.....	8·4	R.D.	7 inch	I.	13 36 43·5	14 46 13·o	*g*, white.
298	13	42 Libræ.....	5·o	R.D.	7 inch	I.	13 57 20·o	15 6 46·1	g, yellow.
299	13	C.P.D — 23° 6242	10·o	R.D.	7 inch	I.	13 58 15·o	15 7 41·o	fr.
300	13	O.A. 14754.....	9·6	R.D.	7 inch	I.	14 12 2·o	15 21 25·7	fr.

264. Observer doubtful of his assumption that the star was Lalande 43844. The angle = 50° ±. It seems probable that the observed time may be in error.
293. Observer identified as W.B. (2) IV. 243; probably the observed time is in error.
294. Eye tired, ? reap. missed by some seconds but this is improbable.

Digitized by Google

No.	Moon's Tabular,				Var. in 1ˢ.		Newcomb's Corr.		Star's Apparent,		Sec. of Mean,	
	R.A.	Dec.	Par.	S.-diam.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.
	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
251	18 38 6·78	− 24 52 32·9	60 40·75	16 32·61	+0·676	+ 0·094	− 1·90	− 3·9	18 35 34·90	− 24 27 3·4	31·80	1·7
252	18 39 26·69	− 24 49 47·0	60 39·92	16 32·39	+0·676	+ 0·094	− 1·90	− 4·0	18 36 49·76	− 24 25 2·9	46·66	1·2
253	18 39 42·68	− 24 49 13·5	60 39·76	16 32·35	+0·676	+ 0·094	− 1·90	− 4·0	18 36 43·73	− 24 4 3·7	40·63	2·1
254	20 39 12·38	− 17 33 5·5	59 0·12	16 5·19	+0·577	+ 0·198	− 1·63	− 8·3	20 37 18·92	− 17 5 56·3	15·53	66·1
255	20 39 37·45	− 17 30 56·1	58 59·69	16 5·06	+0·577	+ 0·198	− 1·63	− 8·3	20 37 36·04	− 17 12 26·9	32·65	36·6
256	20 40 13·80	− 17 27 48·2	58 59·07	16 4·89	+0·577	+ 0·198	− 1·63	− 8·3	20 38 7·55	− 17 7 48·2	4·16	58·0
257	20 40 29·70	− 17 26 25·7	58 58·80	16 4·82	+0·577	+ 0·198	− 1·63	− 8·3	20 38 24·61	− 17 2 11·0	21·22	20·8
258	20 41 35·98	− 17 20 41·1	58 57·68	16 4·51	+0·575	+ 0·200	− 1·62	− 8·4	20 39 9·05	− 16 43 12·2	5·67	22·2
259	21 31 4·72	− 12 35 26·7	58 4·83	15 50·10	+0·533	+ 0·223	− 1·50	− 9·3	21 29 63·27	− 12 14 39·6	59·76	55·0
260	21 32 55·48	− 12 23 49·2	58 2·80	15 49·55	+0·532	+ 0·224	− 1·50	− 9·3	21 31 22·62	− 12 2 9·5	19·11	25·0
261	21 33 7·16	− 12 22 35·3	58 2·59	15 49·49	+0·532	+ 0·224	− 1·50	− 9·3	21 31 29·88	− 11 52 12·1	26·37	27·7
262	21 33 29·12	− 12 20 16·5	58 2·18	15 49·38	+0·532	+ 0·224	− 1·50	− 9·3	21 31 50·03	− 11 55 4·9	46·52	20·5
263	21 34 50·77	− 12 11 39·0	58 0·68	15 48·97	+0·530	+ 0·224	− 1·49	− 9·3	21 32 5·08	− 11 28 54·5	1·58	70·2
264	22 21 44·66	− 6 55 44·6	57 8·69	15 34·80	+0·498	+ 0·235	− 1·40	− 9·8	—	—	—	—
265	23 8 41·26	− 1 14 52·1	56 19·00	15 21·25	+0·477	+ 0·235	− 1·34	− 9·8	23 7 47·35	− 0 31 25·8	43·54	45·3
266	23 56 12·65	+ 4 34 45·7	55 34·69	15 9·17	+0·468	+ 0·226	− 1·31	− 9·4	23 54 41·70	+ 5 23 30·5	37·66	2·0
267	1 25 59·63	+ 14 33 29·4	54 34·68	14 52·81	+0·481	+ 0·188	− 1·33	− 7·8	1 26 22·72	+ 15 5 70·2	18·07	39·7
268	59·64	29·5	...	...	..	...	...	...	...	...	...	...
269	2 10 40·20	+ 18 33 54·7	54 16·53	14 47·87	+0·497	+ 0·160	− 1·38	− 6·6	2 12 28·70	+ 19 25 57·8	23·70	28·6
270	40·17	54·6	...	...	...	...	...	...	...	...	...	...
271	40·18	...	...	...	...	...	...	...	...	...	...	...
272	9 9 26·08	+ 14 39 58·5	55 18·80	15 4·84	+0·493	− 0·193	− 1·39	+ 8·0	9 9 37·74	+ 15 21 48·2	32·72	67·2
273	14 9 27·18	− 18 32 55·7	59 58·54	16 21·11	+0·604	− 0·195	− 1·69	+ 8·0	14 11 25·34	− 18 6 45·2	22·03	27·3
274	14 9 38·16	− 18 33 49·1	59 58·68	16 21·14	+0·604	− 0·195	− 1·69	+ 8·0	14 11 43·16	− 18 0 67·1	39·85	49·2
275	21 10 38·80	− 14 30 30·6	59 21·30	16 10·95	+0·567	+ 0·224	− 1·61	− 9·3	21 8 24·90	− 14 6 39·8	21·63	52·2
276	21 12 51·85	− 14 17 23·2	59 19·04	16 10·34	+0·567	+ 0·224	− 1·60	− 9·4	21 10 24·36	− 13 37 32·2	21·10	44·8
277	51·84	...	...	...	...	...	...	...	...	...	...	...
278	21 12 52·29	− 14 17 20·5	59 19·03	16 10·34	+0·567	+ 0·224	− 1·60	− 9·4	21 10 26·84	− 13 53 13·6	23·57	26·1
279	22 53 36·67	− 2 54 58·0	57 23·88	15 38·94	+0·497	+ 0·243	− 1·40	− 10·2	22 51 50·40	− 2 23 48·9	46·93	70·8
280	22 55 34·84	− 2 40 30·6	57 21·54	15 38·31	+0·496	+ 0·243	− 1·40	− 10·2	22 53 8·83	− 1 57 17·8	5·36	39·9
281	0 25 33·22	+ 8 13 35·0	55 42·66	15 11·34	+0·476	+ 0·220	− 1·34	− 9·2	0 23 49·98	+ 9 4 71·2	46·04	42·9
282	0 26 11·94	+ 8 18 3·0	55 42·04	15 11·17	+0·476	+ 0·220	− 1·34	− 9·2	0 24 35·34	+ 9 7 72·1	31·40	43·7
283	3 39 53·87	+ 24 10 52·1	54 2·84	14 44·13	+0·531	+ 0·088	− 1·48	− 3·7	3 39 54·51	+ 25 4 59·5	52·41	48·1
284	9 39 24·91	+ 11 31 0·9	55 39·31	15 10·43	+0·489	− 0·211	− 1·38	+ 8·8	9 40 55·96	+ 12 16 38·8	53·68	47·6
285	24·92	...	...	...	...	...	...	...	...	...	...	...
286	24·90	1·0	...	...	...	...	...	...	...	...	...	...
287	9 41 8·82	+ 11 19 47·6	55 40·33	15 10·71	+0·488	− 0·212	− 1·38	+ 8·8	9 41 59·29	+ 12 2 14·5	57·00	23·3
288	8·80	47·7	...	...	...	...	...	...	...	...	...	...
289	11 17 9·40	− 0 0 41·9	56 44·83	15 28·30	+0·486	− 0·240	− 1·37	+ 10·0	11 18 6·37	+ 0 41 21·2	4·57	30·9
290	14 49 20·65	− 21 30 41·2	59 23·49	16 11·56	+0·613	− 0·158	− 1·72	+ 6·5	14 51 30·33	− 20 57 18·9	29·57	14·1
291	14 49 22·04	− 21 30 46·5	59 23·51	16 11·56	+0·613	− 0·158	− 1·72	+ 6·5	14 51 31·26	− 20 57 23·4	30·50	18·7
292	1 41 54·06	+ 16 13 31·6	55 12·60	15 3·14	+0·497	+ 0·183	− 1·39	− 7·7	1 41 4·01	+ 16 54 16·9	3·03	7·0
293	4 13 5·34	+ 25 20 44·3	54 9·16	14 45·86	+0·541	+ 0·060	− 1·51	− 2·6	—	—	—	—
294	11 0 25·06	+ 2 5 29·1	56 49·61	15 29·59	+0·491	− 0·241	− 1·38	+ 10·0	11 1 44·60	+ 2 30 18·9	42·08	32·9
295	15 32 27·40	− 23 48 1·8	59 4·24	16 6·31	+0·629	− 0·113	− 1·77	+ 4·7	15 33 9·29	− 23 37 37·3	7·76	30·2
296	15 32 44·03	− 23 48 47·1	59 4·34	16 6·33	+0·629	− 0·113	− 1·77	+ 4·7	15 33 42·43	− 23 23 34·9	40·90	27·9
297	15 32 53·99	− 23 49 14·2	59 4·38	16 6·34	+0·629	− 0·113	− 1·77	+ 4·7	15 33 35·68	− 23 28 11·0	34·15	3·9
298	15 33 45·67	− 23 51 34·0	59 4·68	16 6·42	+0·629	− 0·113	− 1·77	+ 4·7	15 34 16·50	− 23 29 18·3	14·99	11·2
299	15 33 47·97	− 23 51 40·3	59 4·70	16 6·43	+0·629	− 0·113	− 1·77	+ 4·7	15 34 17·38	− 23 49 25·5	15·85	18·5
300	15 34 22·56	− 23 53 13·2	59 4·90	16 6·49	+0·629	− 0·113	− 1·77	+ 4·7	15 34 35·91	− 23 32 66·3	34·39	59·2

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Cape Sid. Time.	G.M.T.	Remarks.
	1898.						h m s	h m s	
301	Feb. 25	θ Arietis.....	5·6	D.D.	7 inch	I.	6 37 59·0	7 1 26·2	*g*.
302	25	„	...	D.D.	3·2 inch	V.L.	58·9	26·1	Hurried.
303	28	W.B. (2) IV. 986...	7·8	D.D.	7 inch	I.	6 31 45·1	6 43 25·6	*g*, yellow.
304	28	B.D. + 26° 762...	8·9	D.D.	7 inch	I.	7 36 45·4	7 48 15·2	*g*.
305	Mar. 1	W.B. (2) V. 1202..	9·4	D.D.	7 inch	I.	6 0 10·4	6 8 0·1	fr.
306	1	B.D. + 26° 950...	9·5	D.D.	7 inch	I.	7 26 52·5	7 34 28·0	fr, almost tangential, N. point.
307	1	B.D. + 26° 955...	8·7	D.D.	7 inch	I.	7 43 24·0	7 50 56·8	g.
308	2	Lalande 12766.....	8·0	D.D.	7 inch	I.	7 58 29·6	8 2 4·1	*g*.
309	2	Lalande 12816.....	7·8	D.D.	7 inch	I.	8 43 15·3	8 46 42·4	*g*, gl.
310	2	ϵ Geminorum.....	3·2	D.D.	7 inch	I.	9 53 35·8	9 56 51·4	*g*, yellow.
311	2	„	...	D.D.	10 inch	L.	35·8	51·4	
312	2	„	...	D.D.	3½ inch	V.L.	35·8	51·4	
313†	3	B.D. + 23° 1736..	9·2	D.D.	7 inch	V.L.	7 21 42·0	7 21 26·6	?, near S. pole and bright limb.
314	3	W.B. (2) VII. 704.	6·4	D.D.	10 inch	L.	7 55 58·5	7 55 37·5	?
315	3	„	...	D.D.	7 inch	I.	58·8	37·7	g.
316	3	B.D. + 23° 1744...	8·5	D.D.	7 inch	I.	7 56 25·7	7 56 4·6	g. South star.
317†	4	Lalande 16350.....	7·5	D.D.	7 inch	I.	6 46 42·1	6 42 36·5	g, gl, $0^s{\cdot}3$, final recorded.
318	5	π Cancri.....	5·6	D.D.	10 inch	L.	9 31 2·4	9 22 34·0	
319	11	Piazzi XIV. 22.....	5·5	R.D.	7 inch	I.	9 36 2·6	9 3 57·9	*g*, white.
320*	11	„	...	R.D.	Heliom.	V.L.	2·6	57·9	g. [S.T. diminished 10^s].
321	11	C.G.A. 19332.....	6·4	R.D.	7 inch	I.	10 26 7·3	9 53 54·4	*g*, yellow.
322	11	O.A. 13514.....	9·0	R.D.	7 inch	I.	10 38 17·1	10 6 2·2	*g*, gl.
323	11	Lalande 26150.....	5·7	R.D.	7 inch	I.	11 22 18·0	10 49 55·9	*g*, white.
324	11	„	...	R.D.	Heliom.	V.L.	17·6	55·5	
325	12	Mayer 611.....	5·8	R.D.	7 inch	I.	10 56 24·5	10 20 10·7	*g*, yellow.
326	12	„	...	R.D.	Heliom.	V.L.	24·0	10·2	*g*.
327	14	Lacaille 7294.....	6·3	R.D.	7 inch	F.	13 37 37·1	12 53 5·1	g.
328	17	ρ Capricorni.....	5·1	R.D.	10 inch	I.	14 11 27·8	13 15 2·5	g.
329	17	Bradley 2627.....	7·3	R.D.	10 inch	I.	14 17 20·3	13 20 54·1	g. [telescope.
330	17	Lalande 39450.....	8·5	R.D.	10 inch	I.	14 58 43·8	14 2 10·8	P = 190°. ? some secs. late, eye removed from
331†	26	See note.	9·5	D.D.	7 inch	I.	7 28 55·4	5 58 12·9	d, near S. terminator.
332	27	B.D. + 26° 726...	9·5	D.D.	7 inch	I.	7 12 1·1	5 37 25·5	d.
333	Apr. 24	Piazzi IV. 287.....	6·6	D.D.	7 inch	I.	8 10 4·2	4 45 13·7	*g*, gl, $0^s{\cdot}2$, twilight.
334	24	W.B. (2) IV. 1315	8·6	D.D.	7 inch	I.	8 38 43·8	5 13 48·6	p, $\pm 2^s$.
335	25	139 Tauri.....	4·7	D.D.	7 inch	I.	7 44 6·2	4 15 24·0	*g*, Daylight, dark limb.
336	25	„	...	D.D.	10 inch	L.	6·5	24·3	not seen.
337	25	W.B. (2) V. 1685.	8·5	D.D.	7 inch	I.	9 9 42·5	5 40 46·3	g.
338	26	B.D. + 24° 1423..	9·5	D.D.	7 inch	I.	8 38 57·7	5 6 10·6	p.
339	26	B.D. + 24° 1427..	8·8	D.D.	7 inch	I.	8 45 24·7	5 12 36·5	*g*.
340	26	Lalande 13279.....	6·7	D.D.	7 inch	I.	10 39 57·8	7 6 50·9	*g*.
341*	28	θ Cancri.....	5·5	D.D.	7 inch	I.	9 16 40·5	5 35 55·4	Orange yellow. Note.
342	28	„	...	D.D.	Heliom.	V.L.	40·7	55·6	
343	29	B.D. + 14° 2073..	9·3	D.D.	7 inch	I.	9 15 5·1	5 30 24·3	p.
344	30	W.B. IX. 1271....	8·7	D.D.	7 inch	I.	9 25 28·3	5 36 49·9	*g*.
345	30	W.B. IX. 1311.....	9·0	D.D.	7 inch	I.	10 41 12·7	6 52 21·9	*g*.
346	May 2	W.B. XI. 680.....	7·7	D.D.	7 inch	I.	12 6 44·8	8 9 48·2	In 2 portions, but almost identical.
347	16	B.D. + 12° 131...	9·1	R.D.	7 inch	I.	20 41 11·5	15 47 47·9	*f*, ? late, brighter component.
348	16	75 Piscium.....	6·3	R.D.	7 inch	I.	21 31 3·6	16 37 31·8	g.
349	26	W.B.(2)VIII.1390	9·4	D.D.	10 inch	L.	11 40 35·6	6 9 21·4	g. Estimated 9·0 mag.
350	26	„	...	D.D.	7 inch	I.	35·9	21·7	p.

313. Identified by observer as B.D. + 23° 1741.
317. Identified by observer as Lalande 16283.
331. Observer could not identify.
341. In two stages $0^s{\cdot}2$ a part as though double ; not "glided." Observed time diminished 1^s after comparison with VL.

Digitized by Google

No.	Moon's Tabular,				Var. in 1ˢ.		Newcomb's Corr.		Star's Apparent,		Sec. of Mean,	
	R.A.	Dec.	Par.	S.-diam.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.
	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
301	2 14 23·16	+ 18 51 52·8	55 13·54	15 3·41	+0·514	+ 0·162	− 1·45	− 6·8	2 12 27·82	+ 19 25 54·1	27·03	45·4
302	...	...	...	...	...	...	...	...	...	...	...	...
303	4 47 6·48	+ 25 54 16·1	54 14·51	14 47·31	+0·547	+ 0·028	− 1·54	− 1·3	4 46 41·22	+ 26 36 36·5	39·38	27·7
304	4 49 28·41	+ 25 56 3·4	54 14·32	14 47·26	+0·547	+ 0·026	− 1·54	− 1·4	4 48 17·84	+ 26 35 42·2	15·98	33·5
305	5 38 28·44	+ 26 0 31·9	54 15·06	14 47·46	+0·549	− 0·019	− 1·54	+ 0·8	5 39 14·48	+ 26 46 20·5	12·28	14·9
306	5 41 38·21	+ 25 58 41·2	54 15·41	14 47·55	+0·549	− 0·024	− 1·54	+ 1·0	5 40 30·11	+ 26 57 42·5	27·90	36·0
307	5 42 14·37	+ 25 58 18·3	54 15·49	14 47·58	+0·549	− 0·024	− 1·54	+ 1·0	5 41 18·03	+ 26 53 12·3	15·82	5·9
308	6 35 4·57	+ 24 48 21·6	54 26·92	14 50·70	+0·543	− 0·073	− 1·52	+ 3·1	6 34 45·11	+ 25 25 5·7	42·61	2·8
309	6 36 41·44	+ 24 45 5·0	54 27·42	14 50·84	+0·542	− 0·075	− 1·52	+ 3·1	6 35 56·92	+ 25 33 57·3	54·41	54·5
310	6 39 13·56	+ 24 39 47·9	54 28·23	14 51·05	+0·542	− 0·077	− 1·52	+ 3·2	6 37 41·96	+ 25 13 58·0	39·44	55·4
311	...	...	...	...	...	...	...	...	...	...	...	...
312	...	...	...	...	...	...	...	...	...	...	...	...
313	7 25 13·58	+ 22 34 57·0	54 46·77	14 56·11	+0·532	− 0·117	− 1·50	+ 5·0	7 25 30·20	+ 23 6 17·3	27·49	18·4*
314	7 26 26·29	+ 22 30 55·2	54 47·35	14 56·26	+0·532	− 0·119	− 1·50	+ 5·0	7 26 46·56	+ 23 6 16·5	43·85	17·7
315	26·30	...	...	...	...	...	...	...	...	...	...	...
316	7 26 27·25	+ 22 30 52·0	54 47·35	14 56·26	+0·532	− 0·119	− 1·50	+ 5·0	7 26 46·59	+ 23 6 4·8	43·88	6·0
317	8 14 18·53	+ 19 21 42·7	55 13·90	15 3·51	+0·519	− 0·158	− 1·47	+ 6·6	8 16 12·05	+ 20 16 58·5	9·21	63·8*
318	9 8 55·37	+ 14 37 38·8	55 51·32	15 13·71	+0·506	− 0·196	− 1·44	+ 8·2	9 9 38·94	+ 15 21 42·6	36·04	52·4
319	14 7 43·87	− 18 14 14·9	58 55·12	16 3·81	+0·583	− 0·189	− 1·64	+ 7·8	14 9 49·28	− 17 43 44·4	46·70	29·6
320	...	...	...	...	...	...	...	...	...	...	...	...
321	14 9 40·54	− 18 23 40·0	58 55·66	16 3·96	+0·585	− 0·188	− 1·65	+ 7·8	14 11 27·94	− 18 6 58·9	25·34	44·2
322	14 10 8·91	− 18 25 56·6	58 55·78	16 4·00	+0·585	− 0·188	− 1·65	+ 7·7	14 11 45·75	− 18 1 20·7	43·16	6·0
323	14 11 51·70	− 18 34 8·8	58 56·24	16 4·13	+0·586	− 0·186	− 1·65	+ 7·7	14 12 62·30	− 18 14 52·0	59·70	37·3
324	51·68	8·7	...	...	...	...	...	...	...	...	...	...
325	15 8 31·90	− 22 24 15·9	59 7·94	16 7·31	+0·619	− 0·139	− 1·73	+ 5·7	15 10 30·63	− 22 1 31·6	28·16	19·7
326	31·88	15·8	...	...	...	...	...	...	...	...	...	...
327	17 18 38·71	− 25 59 38·4	59 14·88	16 9·21	+0·656	+ 0·001	− 1·83	+ 0·0	17 20 38·47	− 25 51 16·8	36·48	11·6
328	20 20 40·87	− 18 47 16·5	58 48·52	16 2·02	+0·585	+ 0·182	− 1·65	− 7·6	20 23 3·67	− 18 9 3·4	2·61	3·0
329	20 20 54·57	− 18 46 12·2	58 48·46	16 2·00	+0·585	+ 0·182	− 1·64	− 7·6	20 23 12·32	− 18 12 37·2	11·26	36·8
330	20 22 30·94	− 18 38 37·5	58 48·00	16 1·87	+0·583	+ 0·184	− 1·64	− 7·7	20 25 36·22	− 18 25 36·1	35·19	35·8
331	3 35 32·17	+ 23 38 38·2	54 38·96	14 53·98	+0·539	+ 0·094	− 1·53	− 4·0	—	—	—	—
332	4 26 57·52	+ 25 19 28·8	54 22·03	14 49·36	+0·547	+ 0·047	− 1·54	− 2·1	4 25 32·57	+ 26 11 21·8	31·28	14·0*
333	5 0 59·10	+ 25 35 35·6	54 12·29	14 46·71	+0·549	+ 0·014	− 1·55	− 0·7	4 59 35·60	+ 26 17 29·2	34·51	23·2
334	5 2 1·88	+ 25 35 59·1	54 12·10	14 46·66	+0·549	+ 0·014	− 1·55	− 0·6	5 0 15·65	+ 26 21 34·0	14·55	28·1
335	5 52 26·36	+ 25 21 39·8	54 7·23	14 45·32	+0·544	− 0·033	− 1·54	+ 1·4	5 51 41·23	+ 25 56 32·6	39·9	28·1
336	26·37	...	...	...	...	...	...	...	...	...	...	...
337	5 55 32·11	+ 25 18 39·7	54 7·17	14 45·31	+0·544	− 0·037	− 1·53	+ 1·6	5 54 4·06	+ 25 54 61·0	2·70	56·5
338	6 45 57·84	+ 23 55 9·8	54 10·83	14 46·30	+0·532	− 0·081	− 1·50	+ 3·4	6 45 11·87	+ 24 48 47·3	10·25	44·9
339	6 46 11·53	+ 23 54 38·3	54 10·85	14 46·31	+0·532	− 0·081	− 1·50	+ 3·4	6 45 29·86	+ 24 44 54·5	28·24	52·2
340	6 50 14·31	+ 23 45 5·0	54 11·54	14 46·50	+0·531	− 0·085	− 1·50	+ 3·6	6 48 31·26	+ 24 22 31·8	29·63	29·7
341	8 26 8·77	+ 17 57 7·4	54 47·64	14 56·34	+0·501	− 0·161	− 1·42	+ 6·8	8 25 48·91	+ 18 26 16·5	46·84	20·9
342	8·78	...	...	...	...	...	...	...	...	...	...	...
343	9 13 31·60	+ 13 43 50·7	55 20·62	15 5·34	+0·490	− 0·192	− 1·40	+ 8·1	9 14 29·61	+ 14 29 34·1	27·36	42·3
344	10 0 34·25	+ 8 48 30·5	56 2·87	15 16·86	+0·487	− 0·216	− 1·39	+ 9·1	10 1 46·20	+ 9 15 52·2	43·79	64·5
345	10 3 1·26	+ 8 32 9·4	56 5·34	15 17·52	+0·487	− 0·217	− 1·39	+ 9·2	10 3 30·65	+ 9 8 13·1	28·23	25·5
346	11 40 29·15	− 2 56 22·3	57 51·42	15 46·46	+0·509	− 0·242	− 1·45	+ 10·3	11 41 9·73	− 2 26 28·0	6·96	9·1
347	0 58 3·84	+ 11 43 59·7	55 39·46	15 10·48	+0·492	+ 0·203	− 1·39	− 8·5	0 59 51·27	+ 12 17 13·7	50·19	7·2
348	0 59 41·74	+ 11 54 4·9	55 38·44	15 10·19	+0·493	+ 0·202	− 1·39	− 8·5	1 1 12·67	+ 12 24 40·2	11·59	33·7
349	9 0 14·79	+ 14 45 51·5	54 44·54	14 55·50	+0·486	− 0·181	− 1·37	+ 7·6	8 58 60·70	+ 15 15 22·4	58·86	28·6
350	14·80	51·4	...	...	...	...	...	...	...	...	...	...

313. Mean R.A. and Dec. from Paris Photographs.
317. ,, ,, ,, ,, A.G.C.
332. ,, ,, ,, ,, Oxford Photographs.

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Cape Sid. Time.	G.M.T.	Remarks.
	1898.						h m s	h m s	
351	May 26	B.D. + 15° 1975..	8·7	D.D.	7 inch	I.	12 15 44·1	6 44 24·2	fr, gl, quite 1ˢ, 8·0 mag.
352	29	B.D. + 0° 2777...	9·1	D.D.	7 inch	I.	10 26 47·1	4 43 57·3	*g*.
353	June 2	Piazzi XIV. 212 (N*)	7·6	D.D.	7 inch	I.	11 35 35·3	5 34 50·9	fr.
354	2	,,	...	D.D.	Heliom.	V.L.	35·2	50·8	fr.
355	2	Piazzi XIV. 212 (S*).	6·1	D.D.	7 inch	I.	11 34 8·2	5 35 23·7	*g*.
356	2	,,	...	D.D.	Heliom.	V.L.	7·4	22·9	*g*.
357	2	B.D. −21° 4029...	8·7	D.D.	7 inch	I.	16 22 1·5	10 22 29·9	p.
358	2	Lalande 27453.....	6·1	D.D.	7 inch	I.	16 24 46·0	10 25 13·9	*g*.
359	2	,,	...	D.D.	Heliom.	V.L.	45·7	13·6	*g*.
360	2	Mayer 611.....	5·8	D.D.	7 inch	F.	21 7 58·4	15 7 39·9	g.
361	6	50 Sagittarii.....	5·5	R.D.	Heliom.	V.L.	14 27 33·6	8 12 37·0	*g*.
362	6	,,	...	R.D.	7 inch	I.	34·3	37·7	*g*.
363	6	Mayer 810.....	6·1	R.D.	7 inch	I.	16 40 7·0	10 24 48·7	*g*.
364	7	Mayer 877.....	5·9	R.D.	7 inch	F.	22 17 46·3	15 57 36·8	? some secs. late, not looking at spot.
365	8	B.D. − 11° 5636..	9·2	R.D.	7 inch	I.	23 39 20·0	17 15 1·2	fr, daylight.
366	8	B.D. − 11° 5634..	9·0	R.D.	7 inch	I.	23 41 42·0	17 17 22·8	fr, daylight.
367	8	Lalande 42160.....	6·2	R.D.	7 inch	I.	23 51 44·3	17 27 23·5	fr, daylight.
368	13	105 Piscium.....	6·1	R.D.	7 inch	V.L.	21 31 26·2	14 47 48·8	g.
369	13	,,	...	R.D.	Heliom.	S.	25·5	48·1	fr.
370	21	Lalande 15646.....	8·1	D.D.	7 inch	I.	12 30 34·4	5 16 58·3	fr.
371	21	,,	...	D.D.	Heliom.	V.L.	34·6	58·5	
372*	22	W.B. VIII. 1065...	9·1	D.D.	Heliom.	V.L.	12 57 41·5	5 40 5·1	p. [S.T. diminished 59ᵐ].
373*	22	,,	...	D.D.	7 inch	I.	40·0	3·6	fr. [S.T. diminished 60ᵐ].
374*	22	Piazzi VIII. 183...	8·0	D.D.	7 inch	I.	12 59 20·6	5 41 43·9	*g*. [S.T. diminished 60ᵐ].
375*	22	,,	...	D.D.	Heliom.	V.L.	20·3	43·6	fr. [S.T. diminished 60ᵐ].
376	23	B.D. + 12° 2067...	8·4	D.D.	7 inch	I.	12 33 47·3	5 12 18·9	*g*.
377	23	,,	...	D.D.	Heliom.	V.L.	47·3	18·9	
378†	25	B.D. + 2° 2388....	9·1	D.D.	7 inch	I.	12 26 28·4	4 57 9·3	g.
379	25	Lalande 21441.....	8·7	D.D.	7 inch	I.	16 14 21·6	8 44 25·2	*g*.
380	25	Lalande 21446.....	8·5	D.D.	7 inch	I.	16 22 28·3	8 52 30·6	g, gl.
381	30	Lalande 28282.....	8·5	D.D.	7 inch	I.	13 53 54·5	6 4 41·6	g, gl.
382	30	C.G.A. 21222	8·8	D.D.	7 inch	I.	17 18 6·0	9 28 19·6	fr.
383	30	C.G.A. 21216.....	8·4	D.D.	7 inch	I.	17 22 58·7	9 33 11·5	g.
384	30	42 Libræ.....	5·0	D.D.	7 inch	I.	17 44 34·9	9 54 44·2	*g*, orange.
385	30	,,	...	D.D.	Heliom.	V.L.	34·5	43·8	
386	July 24	Lalande 23312.....	6·7	D.D.	7 inch	I.	14 30 39·8	5 6 59·0	*g*.
387	24	B.D. − 7° 3411....	9·3	D.D.	7 inch	I.	14 34 43·5	5 11 2·0	*g*.
388	25	B.D. − 13° 3684...	9·1	D.D.	7 inch	I.	15 1 5·7	5 33 24·0	g, gl.
389	25	Lalande 24769.....	7·0	D.D.	7 inch	I.	17 35 12·5	8 7 5·6	*g*, yellow.
390	25	,,	...	D.D.	Heliom.	V.L.	12·3	5·3	g.
391	25	,,	...	D.D.	10 inch	L.	12·8	5·8	g.
392	Aug. 6	75 Piscium	6·3	R.D.	7 inch	I.	22 53 3·4	12 36 53·4	g.
393	21	Lalande 24322.....	9·1	D.D.	7 inch	I.	16 12 23·8	4 58 20·9	g.
394	23	O.A. 14054.....	9·1	D.D.	7 inch	I.	17 36 21·3	6 14 12·8	p.
395	23	Piazzi XIV. 212 ...	7·6	D.D.	7 inch	I.	18 45 40·8	7 23 20·9	g, gl. N*.
396	23	Piazzi XIV. 212 ...	5·7	D.D.	7 inch	I.	18 46 17·6	7 23 57·6	*g*. S*.
397	24	Lacaille 6579.....	5·3	D.D.	7 inch	I.	17 15 18·2	5 49 17·2	*g*.
398	25	C.Z. XVI. 3733....	9·3	D.D.	7 inch	I.	19 18 29·0	7 48 11·9	p.
399	25	Bradley 2153.....	6·3	D.D.	7 inch	I.	19 27 14·9	7 56 56·4	*g*, yellow.
400	25	26 Ophiuchi.....	5·8	D.D.	7 inch	I.	19 49 11·3	8 18 49·2	*g*.

378. Identified by observer as Lalande 21262.

Digitized by Google

No.	Moon's Tabular,				Var. in 1ˢ.		Newcomb's Corr.		Star's Apparent,		Sec. of Mean,	
	R.A.	Dec.	Par.	S.-diam.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.
	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
351	9 1 22·83	+ 14 39 30·4	54 45·21	14 55·68	+0·485	− 0·182	− 1·37	+ 7·6	8 59 58·29	+ 15 11 47·5	56·44	53·8
352	11 15 35·50	− 0 10 42·5	56 44·01	15 28·07	+0·487	− 0·233	− 1·38	+ 9·9	11 16 45·45	+ 0 7 31·7	43·04	48·2
353	14 48 26·80	− 21 1 43·4	60 22·01	16 27·50	+0·638	− 0·156	− 1·82	+ 6·6	14 51 33·27	− 20 57 33·4	29·57	14·1
354	...	...	...	...	...	...	...	...	...	...	...	...
355	14 48 28·19	− 21 1 48·6	60 22·03	16 27·51	+0·638	− 0·156	− 1·82	+ 6·6	14 51 34·20	− 20 57 38·0	30·50	18·7
356	28·16	48·5	...	...	...	...	...	...	...	...	...	...
357	15 0 44·83	− 21 45 21·3	60 30·35	16 29·78	+0·645	− 0·147	− 1·84	+ 6·2	15 0 37·45	− 21 27 46·3	33·72	28·3
358	15 0 51·90	− 21 45 45·3	60 30·42	16 29·80	+0·645	− 0·147	− 1·84	+ 6·2	15 0 37·67	− 21 38 24·3	33·93	6·2
359	51·89	...	...	...	...	...	...	...	...	...	...	...
360	15 13 7·08	− 22 25 23·2	60 37·98	16 31·85	+0·655	− 0·135	− 1·87	+ 5·7	15 10 31·94	− 22 1 37·3	28·16	19·7
361	19 17 49·75	− 22 14 56·6	60 51·96	16 35·67	+0·658	+ 0·138	− 1·88	− 5·9	19 20 18·10	− 21 58 37·5	14·18	42·4
362	49·78	56·5	...	...	...	...	...	...	...	...	...	...
363	19 23 36·62	− 21 56 13·7	60 49·15	16 34·90	+0·655	+ 0·143	− 1·87	− 6·1	19 24 54·65	− 21 31 22·2	50·77	27·4
364	20 37 30·79	− 16 44 7·1	60 15·55	16 25·74	+0·596	+ 0·203	− 1·70	− 8·6	20 34 52·16	− 16 29 3·4	48·70	13·3
365	21 35 27·33	− 11 12 58·7	59 8·44	16 7·45	+0·551	+ 0·230	− 1·57	− 9·8	21 32 50·98	− 10 59 27·0	47·93	39·4
366	21 35 32·53	− 11 12 26·0	59 8·36	16 7·43	+0·551	+ 0·230	− 1·57	− 9·8	21 32 42·16	− 10 53 38·7	39·11	51·0
367	21 35 54·59	− 11 10 7·6	59 7·98	16 7·33	+0·551	+ 0·230	− 1·57	− 9·8	21 33 62·27	− 11 1 57·7	59·23	70·1
368	1 32 27·12	+ 15 13 20·1	55 21·03	15 5·45	+0·499	+ 0·182	− 1·42	− 7·7	1 34 12·28	+ 15 53 27·4	10·56	18·1
369	27·10	20·0	...	...	...	...	...	...	...	...	...	...
370	7 58 54·78	+ 19 41 28·8	54 9·02	14 45·82	+0·505	− 0·141	− 1·43	+ 5·9	7 56 10·08	+ 20 1 8·8	8·55	11·0
371	54·79	...	...	...	...	...	...	...	...	...	...	...
372	8 47 14·94	+ 15 50 30·4	54 24·82	14 50·13	+0·487	− 0·174	− 1·38	+ 7·3	8 45 16·44	+ 16 16 51·9	14·81	56·7
373	14·89	30·7	...	...	...	...	...	...	...	...	...	...
374	8 47 18·15	+ 15 50 13·3	54 24·84	14 50·13	+0·487	− 0·174	− 1·38	+ 7·3	8 45 29·88	+ 16 22 42·1	28·24	47·0
375	18·14	13·4	...	...	...	...	...	...	...	...	...	...
376	9 32 28·64	+ 11 28 15·0	54 46·75	14 56·10	+0·475	− 0·197	− 1·35	+ 8·3	9 30 53·39	+ 11 53 11·7	51·64	19·4
377	...	...	...	...	...	...	...	...	...	...	...	...
378	11 2 24·77	+ 1 15 58·9	55 53·09	15 14·19	+0·473	− 0·226	− 1·35	+ 9.6	11 2 17·71	+ 1 47 10·4	15·64	24·3*
379	11 9 35·63	+ 0 24 33·4	55 59·64	15 15·97	+0·475	− 0·227	− 1·35	+ 9·6	11 7 34·01	+ 0 53 57·4	31·92	71·7
380	11 9 51·00	+ 0 22 43·3	55 59·90	15 16·04	+0·475	− 0·227	− 1·35	+ 9·6	11 7 39·95	+ 0 46 18·1	37·86	32·5
381	15 25 29·86	− 23 4 51·3	60 9·63	16 24·13	+0·649	− 0·119	− 1·86	+ 5·1	15 27 19·45	− 23 7 27·6	15·56	10·5
382	15 34 21·53	− 23 28 8·8	60 16·06	16 25 89	+0·655	− 0·111	− 1·87	+ 4·7	15 33 44·84	− 23 23 44·1	40·90	27·9
383	15 34 34·30	− 23 28 40·9	60 16·20	16 25·92	+0·657	− 0·108	− 1·87	+ 4·6	15 33 38·09	− 23 28 20·2	34·15	3·9
384	15 35 30·86	− 23 31 2·2	60 16·87	16 26·11	+0·657	− 0·108	− 1·87	+ 4·6	15 34 18·92	− 23 29 27·5	14·99	11·2
385	30·84	...	...	...	...	...	...	...	...	...	...	...
386	12 24 11·05	− 8 17 41·0	56 41·29	15 27·33	+0·497	− 0·222	− 1·42	+ 9·4	12 22 43·54	− 8 6 61·7	41·31	45·0
387	12 24 19·11	− 8 18 34·8	56 41·40	15 27·36	+0·497	− 0·222	− 1·42	+ 9·4	12 23 24·81	− 7 43 17·6	22·56	1·1
388	13 14 14·08	− 13 32 24·0	57 24·36	15 39·07	+0·529	− 0·205	− 1·51	+ 8·7	13 12 48·42	− 13 26 46·2	45·86	27·9
389	13 19 39·93	− 14 3 50·5	57 29·12	15 40·37	+0·532	− 0·204	− 1·52	+ 8·6	13 16 43·78	− 13 53 22·7	41·19	4·2
390	39·92	50·4	...	...	...	...	...	...	...	...	...	...
391	39·94	50·5	...	...	...	...	...	...	...	...	...	...
392	0 59 18·08	+ 12 0 31·1	56 57·98	15 31·87	+0·514	+ 0·209	− 1·48	− 9·0	1 1 15·14	+ 12 24 54·6	11·59	33·7
393	13 1 46·96	− 12 10 33·3	57 3·28	15 33·33	+0·519	− 0·210	− 1·48	+ 8·9	13 0 23·43	− 11 49 37·2	21·22	21·3
394	14 50 41·86	− 21 4 37·3	58 11·73	15 51·99	+0·590	− 0·143	− 1·69	+ 6·0	14 49 16·78	− 20 56 40·9	13·82	24·4
395	14 53 25·37	− 21 14 24·0	58 13·36	15 52·43	+0·592	− 0·141	− 1·69	+ 5·9	14 51 32·58	− 20 57 31·7	29·57	14·1
396	14 53 26·82	− 21 14 29·1	58 13·37	15 52·43	+0·592	− 0·141	− 1·69	+ 5·9	14 51 33·51	− 20 57 36·2	30·50	18·7
397	15 48 6·25	− 23 51 3·4	58 44·64	16 0·95	+0·626	− 0·090	− 1·78	+ 3·8	15 47 54·96	− 23 40 12·3	51·53	26·6
398	16 54 43·50	− 25 19 21·9	59 18·73	16 10·25	+0·654	− 0·020	− 1·86	+ 0·9	16 53 40·81	− 25 1 10·0	36·86	0·3
399	16 55 6·35	− 25 19 32·8	59 18·90	16 10·30	+0·654	− 0·020	− 1·86	+ 0·8	16 53 46·87	− 24 56 23·5	42·93	13·9
400	16 56 3·55	− 25 19 59·0	59 19·35	16 10·42	+0·654	− 0·020	− 1·86	+ 0·8	16 53 58·56	− 24 49 69·5	54·62	59·9

378. Mean R.A. and Dec. from *Bonn Publication*, 4.

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Cape Sid. Time.	G.M.T.	Remarks.
	1898.						h m s	h m s	
401	Aug. 25	C.Z. XVI. 3846....	8·3	D.D.	7 inch	I.	20 7 2·5	8 36 37·5	*g*.
402	26	C.G.A. 24584.....	8·1	D.D.	7 inch	I.	19 56 27·1	8 22 7·9	*g*.
403	26	C.Z. XVII. 3857...	9·3	D.D.	7 inch	I.	20 16 12·4	8 41 50·0	fr.
404	26	Piazzi XVII. 342...	6·8	D.D.	7 inch	I.	20 40 35·1	9 6 8·7	p, $\pm 1^s$. $<1'$ from bright limb at N. point.
405	27	Mayer 779.....	6·3	D.D.	7 inch	I.	16 14 36·8	4 36 58·0	*g*, daylight.
406	Sept. 3	η Piscium.....	3·8	R.D.	7 inch	I.	21 56 59·1	9 50 52·9	*g*.
407	17	W.B. XII. 777.....	8·9	D.D.	7 inch	I.	18 22 55·9	5 22 22·1	g, gl.
408	19	Lalande 26719.....	7·2	D.D.	7 inch	I.	19 22 15·4	6 13 40·0	*g*.
409	20	Lalande 28414.....	6·0	D.D.	7 inch	I.	18 12 59·2	5 0 39·3	*g*.
410	20	Lalande 28446.....	7·2	D.D.	7 inch	I.	18 45 58·9	5 33 33·6	*g*.
411	20	Lalande 28466.....	6·2	D.D.	7 inch	I.	19 3 15·1	5 50 46·9	*g*.
412	21	C.Z. XVI. 2234 ...	8·6	D.D.	7 inch	I.	18 42 13·3	5 25 52·7	*g*.
413†	23	B.D. − 22° 4896...	9·1	D.D.	7 inch	I.	23 2 50·0	9 37 54·8	*g*.
414	23	ν^1 Sagittarii.....	5·0	D.D.	7 inch	I.	23 33 40·0	10 8 39·8	*g*.
415	23	Lalande 35103	7·4	D.D.	7 inch	I.	23 34 42·5	10 9 42·1	*g*.
416	23	C.G.A. 25857	7·8	D.D.	7 inch	I.	23 35 2·8	10 10 2·4	*g*.
417	23	ν^2 Sagittarii.....	5·1	D.D.	7 inch	I.	23 58 25·9	10 33 21·6	*g*.
418	25	C.G.A. 28445	6·9	D.D.	7 inch	I.	19 31 46·8	5 59 34·4	*g*.
419	25	B.D. − 16° 5691...	8·5	D.D.	7 inch	I.	19 33 21·9	6 1 9·2	*g*.
420	26	Lalande 42160.....	6·2	D.D.	7 inch	I.	18 56 59·2	5 20 56·6	*g*.
421	30	75 Piscium	6·3	R.D.	7 inch	I.	21 18 31·6	7 26 22·2	*f*, ?, definition very bad. Note.
422	Oct. 20	23 Sagittarii.....	7·0	D.D.	7 inch	I.	21 14 14·1	6 3 27·2	*g*.
423	20	,,	...	D.D.	7 inch	V.L.	13·1	26·2	*g*.
424	20	Lalande 34164.....	7·7	D.D.	7 inch	I.	21 28 3·8	6 17 14·7	*g*.
425	20	Cor. D. − 23°|14441	9·6	D.D.	7 inch	I.	21 28 14·4	6 17 25·2	g.
426	22	B.D. − 16° 5621..	9·3	D.D.	7 inch	V.L.	22 2 14·3	6 43 27·7	g.
427	22	Lalande 39527.....	8·4	D.D.	7 inch	V.L.	23 26 21·9	8 7 21·6	*g*.
428	24	W.B. XXII. 203..	8·1	D.D.	7 inch	I.	22 4 29·6	6 37 50·9	*g*.
429	24	51 Aquarii.....	5·8	D.D.	7 inch	I.	2 12 55·2	10 45 35·8	g.
430	Nov. 16	Bradley 2276.....	5·3	D.D.	7 inch	C.	23 6 22·4	6 9 7·6	g.
431	19	B.D. − 12° 5925..	9·4	D.D.	7 inch	I.	23 22 51·3	6 13 46·1	g.
432	30	Lalande 13171.....	5·8	R.D.	7 inch	I.	8 25 19·0	14 31 29·9	g.
433*	Dec. 18	B.D. − 3° 5487...	8·5	D.D.	7 inch	I.	1 53 2·5	6 49 31·2	β 709, first class conditions, took 2^s. Note.
434	18	W.B. XXII. 744...	9·0	D.D.	7 inch	I.	3 5 40·5	8 1 57·3	*g*. At N point.
435	18	,,	...	D.D.	Heliom.	H.	40·3	57·1	
436	19	W.B. XXIII. 517.	9·2	D.D.	7 inch	I.	3 22 47·1	8 15 5·2	? 1^s or 2^s early, c, at N. point.
437	20	Lalande 436.....	8·6	D.D.	7 inch	I.	3 30 2·2	8 18 23·2	fr, gl.
438	21	W.B. I. 45	8·5	D.D.	7 inch	I.	2 7 24·0	6 52 2·7	*g*.
439	22	W.B. (2) I. 1326...	9·1	D.D.	7 inch	I.	3 6 24·7	7 46 57·8	*g*, gl, $0^s{\cdot}5$, mean of times given.
440	22	Piazzi I. 243.....	6·4	D.D.	7 inch	I.	3 29 36·9	8 6 10·3	g, gl.
441†	27	*	9·7	D.	18 inch	L.	6 23 46·2	10 44 7·4	
442	27	B.D. + 24° 1300..	9·3	D.	18 inch	L.	6 33 8·7	10 53 28·3	
443	27	,,	...	D.	7 inch	I.	8·7	28·3	*g*.
444	27	,,	...	D.	10 inch	V.L.	8·7	28·3	f.
445	27	B.D. + 24° 1296..	9·4	R.	18 inch	L.	7 0 15·9	11 20 31·1	
446	27	,,	...	R.	10 inch	V.L.	7 0 16·2	11 20 31·4	g.
447	27	B.D. + 24° 1303..	9·0	D.	18 inch	L.	7 1 47·7	11 22 2·6	
448	27	,,	...	D.	7 inch	I.	47·7	2·6	*g*.
449	27	,,	...	D.	10 inch	V.L.	48.9	3·8	Uncertain. [S.T. diminished 1^m.]
450	27	B.D. + 24° 1306..	9·2	D.	18 inch	L.	7 10 41·7	11 30 55·2	

413. Identified by observer as Lalande 35053.
421. Eye on exact spot which was about 1′ from bright limb.
433. Mean of time given. [S. T. diminished by 1^m].
441. Observer identified as B.D. + 24°.1298.
441–450. Observed during Lunar Eclipse.

Digitized by Google

No.	Moon's Tabular,				Var. in 1s.		Newcomb's Corr.		Star's Apparent,		Sec. of Mean,	
	R.A.	Dec.	Par.	S.-diam.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.
	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
401	16 56 50·11	− 25 20 19·3	59 19·72	16 10·53	+0·654	− 0·017	− 1·86	+ 0·8	16 55 16·03	− 25 8 19·8	12·07	10·3
402	17 59 26·12	− 24 57 20·5	59 46·11	16 17·72	+0·660	+ 0·050	− 1·89	− 2·1	17 58 46·32	− 24 41 10·0	41·98	6·8
403	18 0 18·14	− 24 56 19·6	59 46·41	16 17·80	+0·660	+ 0·053	− 1·89	− 2·2	17 58 24·89	− 24 27 4·7	20·56	1·5
404	18 1 22·33	− 24 55 2·7	59 46·80	16 17·91	+0·660	+ 0·053	− 1·89	− 2·2	17 58 59·49	− 24 24 15·9	55·15	12·7
405	18 52 35·85	− 23 19 44·9	60 2·80	16 22·27	+0·650	+ 0·110	− 1·87	− 4·5	18 55 33·41	− 22 50 17·1	28·86	20·3
406	1 24 28·80	+ 14 19 4·7	57 1·53	15 32·85	+0·528	+ 0·197	− 1·52	− 8·5	1 26 5·65	+ 14 49 36·3	1·47	12·0
407	12 50 13·31	− 10 51 10·9	57 17·60	15 37·22	+0·521	− 0·216	− 1·50	+ 9·3	12 48 2·66	− 10 21 16·1	0·64	2·0
408	14 38 8·45	− 20 5 15·2	58 12·42	15 52·17	+0·586	− 0·153	− 1·69	+ 6·5	14 35 43·39	− 19 29 38·7	40·88	24·1
409	15 33 0·23	− 23 2 25·9	58 33·42	15 57·90	+0·617	− 0·105	− 1·77	+ 4·4	15 31 51·03	− 22 48 25·1	48·15	11·7
410	15 34 21·48	− 23 5 51·0	58 33·90	15 58·03	+0·618	− 0·102	− 1·77	+ 4·3	15 32 47·59	− 22 42 66·6	44·70	53·4
411	15 35 4·04	− 23 7 37·4	58 34·14	15 58·10	+0·618	− 0·102	− 1·78	+ 4·3	15 33 24·09	− 22 48 72·6	21·19	59·4
412	16 34 32·13	− 24 51 3·6	58 52·56	16 3·12	+0·640	− 0·043	− 1·83	+ 1·7	16 33 31·67	− 24 48 32·4	28·34	22·1
413	18 49 3·27	− 23 15 49·6	59 20·16	16 10·64	+0·634	+ 0·103	− 1·81	− 4·4	18 46 28·91	− 22 40 35·7	24·82	37·8
414	18 50 21·28	− 23 12 40·8	59 20·33	16 10·69	+0·634	+ 0·103	− 1·81	− 4·5	18 48 4·82	− 22 52 10·3	0·71	12·4
415	18 50 23·92	− 23 12 34·4	59 20·34	16 10·69	+0·634	+ 0·103	− 1·81	− 4·5	18 47 62·91	− 22 41 42·2	58·81	44·4
416	18 50 24·77	− 23 12 32·3	59 20·35	16 10·69	+0·634	+ 0·103	− 1·81	− 4·5	18 48 9·93	− 22 48 43·3	5·82	45·5
417	18 51 23·90	− 23 10 7·4	59 20·46	16 10·73	+0·633	+ 0·105	− 1·81	− 4·5	18 48 61·25	− 22 47 52·6	57·14	54·8
418	20 37 30·01	− 16 29 54·1	59 24·55	16 11·84	+0·585	+ 0·196	− 1·67	− 8·3	20 39 35·65	− 16 9 49·8	31·26	65·0
419	20 37 33·71	− 16 29 35·5	59 24·55	16 11·84	+0·585	+ 0·196	− 1·67	− 8·3	20 39 37·84	− 16 9 5·1	33·45	20·4
420	21 30 55·20	− 11 31 39·2	59 17·24	16 9·85	+0·559	+ 0·227	− 1·60	− 9·6	21 33 63·66	− 11 1 48·9	59·23	70·1
421	0 59 41·56	+ 11 47 5·9	57 25·95	15 39·51	+0·528	+ 0·212	− 1·53	− 9·1	1 1 16·20	+ 12 24 62·5	11·59	33·7
422	18 26 10·91	− 23 48 39·3	59 24·62	16 11·86	+0·643	+ 0·079	− 1·85	− 3·3	18 24 20·90	− 23 19 5·9	17·38	5·7
423	10·87	39·4	...	...	...	...	...	...	...	...	...	...
424	18 26 46·37	− 23 47 33·8	59 24·58	16 11·85	+0·643	+ 0·079	− 1·84	− 3·3	18 25 12·01	− 23 23 7·9	8·49	7·7
425	18 26 46·82	− 23 47 33·0	59 24·57	16 11·85	+0·643	+ 0·079	− 1·84	− 3·3	18 24 58·83	− 23 19 6·4	55·31	6·3
426	20 25 50·79	− 17 11 26·2	59 4·94	16 6·49	+0·582	+ 0·185	− 1·67	− 7·9	20 25 27·09	− 16 46 48·2	23·15	61·0
427	20 29 6·01	− 16 55 51·3	59 4·11	16 6·27	+0·581	+ 0·187	− 1·67	− 7·9	20 27 23·72	− 16 22 7·0	19·79	20·1
428	22 11 59·84	− 6 56 21·3	58 29·61	15 56·85	+0·530	+ 0·234	− 1·52	− 10·0	22 12 59·11	− 6 20 43·5	54·93	67·7
429	22 20 43·68	− 5 58 4·1	58 25·97	15 55·87	+0·527	+ 0·236	− 1·51	− 10·0	22 18 52·19	− 5 20 46·5	47·99	71·2
430	18 7 55·19	− 24 7 15·1	60 16·56	16 26·02	+0·668	+ 0·063	− 1·92	− 2·7	18 5 33·00	− 23 43 19·6	29·85	18·3
431	21 6 40·87	− 13 24 41·4	59 13·00	16 8·69	+0·565	+ 0·211	− 1·63	− 9·0	21 5 17·71	− 12 47 43·5	14·08	59·8
432	6 47 54·20	+ 22 47 6·8	54 8·89	14 45·78	+0·529	− 0·087	− 1·52	+ 3·7	6 45 54·21	+ 23 43 14·7	48·44	19·8
433	22 37 53·37	− 3 39 30·8	58 55·87	16 4·02	+0·531	+ 0·242	− 1·54	− 10·5	22 36 25·92	− 3 4 37·3	22·32	60·7
434	22 40 27·18	− 3 21 59·5	58 53·45	16 3·36	+0·530	+ 0·242	− 1·54	− 10·5	22 37 24·37	− 2 34 18·6	20·77	42·2
435	27·17	...	...	...	...	...	...	...	...	...	...	...
436	23 30 57·99	+ 2 26 39·4	58 4·36	15 49·98	+0·515	+ 0·236	− 1·49	− 10·2	23 27 55·92	+ 3 15 27·8	52·08	0·7
437	0 20 9·32	+ 7 56 48·3	57 17·38	15 37·16	+0·510	+ 0·220	− 1·48	− 9·5	0 18 8·29	+ 8 47 29·8	4·14	0·4
438	1 6 15·59	+ 12 39 47·7	56 36·92	15 26·14	+0·513	+ 0·197	− 1·48	− 8·5	1 6 26·99	+ 13 20 34·2	22·46	4·3
439	1 57 54·08	+ 17 10 31·7	55 57·56	15 15·41	+0·524	+ 0·164	− 1·51	− 7·1	1 57 58·28	+ 17 50 40·4	53·30	11·7
440	1 58 34·34	+ 17 13 40·3	55 57·10	15 15·28	+0·524	+ 0·164	− 1·51	− 7·1	1 58 11·85	+ 17 47 75·2	6·87	47·0
441	6 25 35·72	+ 23 34 31·0	54 6·79	14 45·21	+0·536	− 0·068	− 1·55	+ 2·9	6 26 39·81	+ 24 23 44·2	33·41	47·4*
442	6 25 55·79	+ 23 33 53·0	54 6·72	14 45·19	+0·536	− 0·068	− 1·55	+ 2·9	6 26 53·08	+ 24 21 49·5	46·69	52·7
443	...	...	...	...	...	...	...	...	...	...	...	...
444	...	...	...	...	...	...	..	...	...	...	...	...
445	6 26 53·80	+ 23 32 2·1	54 6·55	14 45·14	+0·536	− 0·068	− 1·55	+ 3·0	6 25 18·87	+ 24 19 20·5	12·48	23·5
446	53·81	...	...	...	...	...	...	...	...	...	...	...
447	6 26 57·08	+ 23 31 55·8	54 6·53	14 45·14	+0·536	− 0·068	− 1·55	+ 3·0	6 27 10·90	+ 24 6 55·6	4·52	58·9
448	...	...	...	...	...	...	...	...	...	...	...	...
449	57·12	55·7	...	...	...	...	...	...	...	...	...	...
450	6 27 16·11	+ 23 31 19·0	54 6·48	14 45·12	+0·536	− 0·070	− 1·55	+ 3·0	6 27 41·92	+ 24 14 42·3	35·53	45·6*

441, 450. Mean R.A. and Dec. from Paris Photographs.

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Cape Sid. Time.	G.M.T.	Remarks.
	1898.						h m s	h m s	
451	Dec. 27	B.D. + 24° 1306..	9·2	D.	7 inch	I.	7 10 41·2	11 30 54·7	g.
452	27	,,	...	D.	10 inch	V.L.	40·9	54·4	*fr.*
453	27	*	9·5	D.	7 inch	I.	7 10 49·7	11 31 3·2	fr.
454	27	B.D. + 24° 1305..	9·2	D.	Heliom.	H.	7 16 36·0	11 36 48·5	g.
455	27	,,	...	D.	18 inch	L.	36·9	49·4	
456	27	,,	...	D.	7 inch	I.	37·3	49·8	*g.*
457	27	,,	...	D.	10 inch	V.L.	36·9	49·4	g.
458	27	B.D. + 24° 1311..	9·4	D.	18 inch	L.	7 25 55·7	11 46 6·7	Definition bad.
459	27	B.D. + 24° 1310..	9·2	D.	18 inch	L.	7 26 53·2	11 47 4·0	
460	27	B.D. + 24° 1309..	9·0	D.	Heliom.	H.	7 30 35·5	11 50 45·7	*g.*
461	27	,,	...	D.	18 inch	L.	35·4	45·6	
462	27	,,	...	D.	7 inch	I.	35·4	45·6	*g.*
463	27	,,	...	D.	10 inch	V.L.	35·5	45·7	g.
464	27	B.D. + 24° 1308..	9·3	D.	7 inch	I.	7 31 57·7	11 52 7·7	Worthless.
465	27	,,	...	D.	10 inch	V.L.	58·7	8·7	fr., f.
466	27	B.D. + 24° 1313..	9·5	D.	18 inch	L.	7 53 40·7	12 13 47·1	
467	27	,,	...	D.	7 inch	I.	41·7	48·1	Worthless.
468	27	,,	...	D.	10 inch	V.L.	41·2	47·6	Bad.
469	28	δ Geminorum	3·3	R.D.	Heliom.	H.	5 1 55·1	9 18 33·8	?
470	28	,,	...	R.D.	7 inch	I.	5 1 58·1	9 18 36·8	?
471	28	,,	...	R.D.	10 inch	V.L.	57·9	36·6	?
472	30	o^1 Cancri.....	5·1	R.D.	Heliom.	H.	5 17 12·7	9 25 57·0	*g.*
473	30	,,	...	R.D.	7 inch	I.	12·8	57·1	*g.*
	1899.								
474	Jan. 15	B.D. + 0° 4980...	9·2	D.D.	7 inch	I.	3 47 20·6	6 53 25·1	*g.*
475	15	Piazzi XXIII. 21...	7·7	D.D.	7 inch	I.	4 31 52·8	7 37 50·0	*g.*
476	18	W.B. (2) I. 942....	8·7	D.D.	7 inch	I.	4 34 19·5	7 28 28·6	g.
477	18	Bradley 236.....	8·2	D.D.	7 inch	I.	4 42 53·2	7 37 0·9	g almost tangential to S.L.
478	19	Lalande 4926.....	8·0	D.D.	7 inch	I.	4 50 25·6	7 40 36·1	*g.*
479	19	Lalande 4932.....	8·3	D.D.	7 inch	I.	5 0 45·5	7 50 54·3	*g.*
480	Feb. 2	Piazzi XIV. 22.....	5·5	R.D.	10 inch	H.	12 1 32·2	13 55 29·3	p.
481	2	,,	...	R.D.	7 inch	I.	31·8	28·9	*g.*
482	4	Lacaille 6689	5·7	R.D.	10 inch	V.L.	10 15 35·1	12 1 57·8	g.
483	4	Lacaille 6710	5·8	R.D.	10 inch	V.L.	11 35 49·0	13 21 58·5	*g.*
484	4	,,	...	R.D.	Heliom.	H.	49·3	58·8	g.
485	4	,,	...	R.D.	7 inch	I.	49·4	58·9	*g*, gl.
486	16	Lalande 5961	6·9	D.D.	7 inch	V.L.	5 29 0·8	6 28 59·5	*g*, i, almost tangential to N.L.
487	16	B.D. + 22° 466...	9·0	D.D.	7 inch	V.L.	6 39 45·2	7 39 32·3	f, bad definition, *d.*
488	16	B.D. + 22° 468...	9·3	D.D.	7 inch	V.L.	6 59 37·7	7 59 21·5	*f*, c, d, ?
489	16	Lalande 6065.....	7·5	D.D.	7 inch	V.L.	7 9 11·9	8 8 54·2	g, gl., c.
490	17	B.D. + 24° 631...	9·0	D.D.	7 inch	I.	7 19 20·9	8 15 5·6	g.
491	17	,,	...	D.D.	Heliom.	V.L.	20·5	5·2	*g.*
492	17	Lalande 7767	8·7	D.D.	Heliom.	V.L.	7 28 12·3	8 23 55·6	*g.*
493	17	,,	...	D.D.	7 inch	I.	12·3	55·6	*g.*
494	20	B.D. + 23° 1513..	8·5	D.D.	7 inch	V.L.	7 41 38·9	8 25 32·2	g.
495	21	79 Geminorum.....	6·3	D.D.	10 inch	H.	10 35 34·7	11 15 3·6	Horrible definition.
496	21	,,	...	D.D.	7 inch	I.	33·9	2·8	g.
497	21	,,	...	D.D.	Heliom.	V.L.	33·6	2·5	g.
498	Mar. 16	26 Tauri	6·6	D.D.	6 inch	V.L.	7 11 42·5	6 21 19·0	g.
499	16	,,	...	D.D.	7 inch	H.	43·5	20·0	fr.
500	16	Piazzi III. 161.....	8·7	D.D.	7 inch	H.	7 21 32·2	6 31 7·1	Bad, *f.*

451–468. Observed during Lunar Eclipse.

Digitized by Google

No.	Moon's Tabular,				Var. in 1s.		Newcomb's Corr.		Star's Apparent,		Sec. of Mean,	
	R.A.	Dec.	Par.	S.-diam.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.
	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	′ ″	s	″
451	6 27 16·09	...	...	...	...	...	...	...	...	...	...	...
452	16·08	...	...	...	...	...	...	...	...	...	...	...
453	6 27 16·40	+ 23 31 18·5	54 6·48	14 45·12	+0·536	− 0·070	− 1·55	+ 3·0	6 27 25·82	+ 24 6 53·1	19·44	56·4*
454	6 27 28·74	+ 23 30 54·6	54 6·44	14 45·11	+0·536	− 0·070	− 1·55	+ 3·0	6 27 40·03	+ 24 8 21·5	33·65	24·8
455	28·77	54·5	...	...	...	...	...	...	...	...	...	...
456	28·78	...	...	...	...	...	...	...	...	...	...	...
457	...	...	...	...	...	...	...	...	...	...	...	...
458	6 27 48·68	+ 23 30 15·8	54 6·39	14 45·10	+0·536	− 0·070	− 1·55	+ 3·0	6 27 62·85	+ 24 15 17·4	56·46	20·8*
459	6 27 50·73	+ 23 30 11·9	54 6·38	14 45·09	+0·536	− 0·070	− 1·55	+ 3·0	6 27 62·31	+ 24 18 57·1	55·92	60·5*
460	6 27 58·64	+ 23 29 56·4	54 6·36	14 45·09	+0·536	− 0·070	− 1·55	+ 3·0	6 27 59·60	+ 24 7 27·2	53·22	30·6*
461	...	...	...	. .	...	...	...	...	...	...	...	...
462	...	...	...	...	...	...	...	...	...	...	...	...
463	...	...	...	...	...	...	...	...	...	...	...	...
464	6 28 1·57	+ 23 29 50·7	54 6·35	14 45·08	+0·536	− 0·070	− 1·55	+ 3·0	6 27 59·38	+ 24 23 27·2	52·98	30·6*
465	1·61	50·6	...	...	...	...	...	...	...	...	...	...
466	6 28 47·97	+ 23 28 19·6	54 6·21	14 45·05	+0·536	− 0·070	− 1·55	+ 3·0	6 28 40·03	+ 24 13 34·7	33·64	38·2
467	48·01	...	...	...	...	...	...	..	...	...	...	...
468	47·99	...	...	...	...	...	...	...	...	...	...	...
469	7 13 16·95	+ 21 36 3·4	54 0·16	14 43·39	+0·519	− 0·106	− 1·51	+ 4·5	7 14 8·17	+ 22 10 2·4	1·92	12·7
470	17·05	3·1	...	...	...	...	...	...	...	...	...	...
471	17·04	...	...	...	...	...	...	...	...	...	...	...
472	8 49 16·47	+ 14 51 31·3	54 1·78	14 43·84	+0·479	− 0·169	− 1·38	+ 7·2	8 51 39·36	+ 15 42 27·8	33·67	49·9
473	...	...	...	...	...	...	...	...	...	...	...	...
474	23 11 13·10	+ 0 9 27·4	59 25·30	16 12·04	+0·539	+ 0·249	− 1·57	− 10·8	23 9 11·00	+ 0 40 39·4	10·57	35·1
475	23 12 48·82	+ 0 20 29·5	59 23·60	16 11·58	+0·538	+ 0·248	− 1·57	− 10·7	23 10 29·43	+ 0 45 36·0	28·99	31·7
476	1 44 24·62	+ 16 3 41·9	56 38·64	15 26·60	+0·529	+ 0·177	− 1·54	− 7·6	1 43 4·57	+ 16 51 58·7	3·27	48·8
477	1 44 42·68	+ 16 5 12·0	56 38·34	15 26·52	+0·529	+ 0·175	− 1·54	− 7·6	1 42 53·78	+ 16 31 14·0	52·49	4·3
478	2 35 59·89	+ 19 51 2·9	55 52·44	15 14·01	+0·537	+ 0·136	− 1·56	− 5·9	2 34 49·83	+ 20 45 22·2	48·17	12·0
479	2 36 22·03	+ 19 52 27·0	55 52·15	15 13·93	+0·537	+ 0·136	− 1·56	− 5·9	2 34 58·26	+ 20 47 29·9	56·60	19·7
480	14 9 5·50	− 17 54 46·8	57 2·54	15 33·13	+0·548	− 0·162	− 1·59	+ 7·0	14 9 51·69	− 17 43 54·2	50·00	46·5
481	5·49	46·7	...	...	...	...	...	...	...	...	...	...
482	15 57 12·71	− 23 34 41·9	58 38·60	15 59·31	+0·624	− 0·076	− 1·82	+ 3·3	16 0 6·09	− 23 19 55·4	4·85	51·8
483	16 0 32·80	− 23 40 37·2	58 41·47	16 0·10	+0·626	− 0·073	− 1·82	+ 3·1	16 2 42·91	− 23 24 60·1	41·68	56·6
484	32·81	...	...	...	...	...	...	...	...	...	...	...
485	...	...	...	...	...	...	...	...	...	...	...	...
486	3 10 5·63	+ 21 36 38·3	56 4·03	15 17·17	+0·554	+ 0·111	− 1·61	− 4·8	3 8 25·79	+ 22 34 43·5	24·30	35·0
487	3 12 42·02	+ 21 44 19·7	56 1·73	15 16·54	+0·554	+ 0·107	− 1·61	− 4·7	3 11 6·17	+ 22 27 49·1	4·66	40·7
488	3 13 25·97	+ 21 46 27·5	56 1·07	15 16·36	+0·554	+ 0·107	− 1·61	− 4·6	3 11 24·40	+ 22 35 11·4	22·89	2·9
489	3 13 47·14	+ 21 47 28·8	56 0·78	15 16·29	+0·554	+ 0·107	− 1·61	− 4·6	3 11 58·39	+ 22 27 53·0	56·88	44·5
490	4 7 22·33	+ 23 47 1·1	55 18·15	15 4·66	+0·556	+ 0·059	− 1·62	− 2·6	4 5 49·35	+ 24 34 39·2	47·46	31·7
491	22·32	...	...	...	...	...	...	...	...	...	...	...
492	4 7 41·99	+ 23 47 31·9	55 17·91	15 4·60	+0·556	+ 0·059	− 1·62	− 2·6	4 5 58·64	+ 24 18 33·4	56·75	26·0
493	...	...	...	...	...	...	...	...	...	...	...	...
494	6 45 2·77	+ 22 46 26·9	54 7·14	14 45·30	+0·527	− 0·081	− 1·53	+ 3·5	6 45 17·30	+ 23 28 57·2	14·54	58·8
495	7 40 32·15	+ 19 59 16·9	54 1·39	14 43·74	+0·507	− 0·124	− 1·47	+ 5·4	7 39 16·54	+ 20 33 24·7	13·64	30·7
496	32·12	17·0	...	...	...	...	...	...	...	...	...	...
497	32·11	...	...	...	...	...	...	...	...	...	...	...
498	3 44 34·27	+ 22 49 51·9	56 12·43	15 19·46	+0·569	+ 0·081	− 1·66	− 3·5	3 42 58·06	+ 23 32 59·9	56·80	53·5
499	34·31	52·0	...	...	...	...	...	...	...	...	...	...
500	3 44 56·58	+ 22 50 39·2	56 12·12	15 19·38	+0·569	+ 0·079	− 1·66	− 3·5	3 43 13·42	+ 23 34 46·2	12·15	39·9

453, 458, 459, 460, 464. Mean R.A. and Dec. from Paris Photographs.

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Cape Sid. Time.	G.M.T.	Remarks.
	1899.						h m s	h m s	
501	Mar. 16	Piazzi III. 161.....	8·7	D.D.	6 inch	V.L.	7 21 31·3	6 31 6·2	p.
502	16	Piazzi III. 163.....	6·1	D.D.	6 inch	V.L.	7 40 10·5	6 49 42·3	*g*.
503	16	,,	...	D.D.	7 inch	H.	10·7	42·5	g.
504	16	27 Tauri.....	3·7	D.D.	7 inch	H.	7 42 47·0	6 52 18·4	fr.
505	16	,,	...	D.D.	6 inch	V.L.	47·1	18·5	*g*.
506	16	Piazzi III. 165.....	6·8	D.D.	6 inch	V.L.	7 45 25·8	6 54 56·7	*g*.
507	16	,,	...	D.D.	7 inch	H.	26·2	57·1	g.
508	20	δ Geminorum.....	3·3	D.D.	7 inch	I.	5 31 31·5	4 25 40·7	g, daylight.
509*	27	Mayer 539.....	6·6	R.D.	7 inch	H.	11 14 15·7	9 39 57·5	p.
510	May 1	Lalande 39357.....	6·5	R.D.	7 inch	H.	20 53 10·7	16 59 50·8	g.
511	3	W.B. XXII. 148...	9·2	R.D.	7 inch	I.	19 31 30·8	15 30 22·5	*g*.
512	3	B.D. − 6° 5951...	9·4	R.D.	7 inch	I.	19 34 25·9	15 33 17·1	g, gl.
513	3	B.D. − 6° 5957...	9·7	R.D.	7 inch	I.	20 10 10·3	16 8 55·6	? $0^s·5$ late.
514	3	B.D. − 6° 5955...	9·5	R.D.	7 inch	I.	20 15 21·3	16 14 5·8	p.
515	3	B.D. − 6° 5959...	9·5	R.D.	7 inch	I.	20 25 21·0	16 24 3·9	fr.
516	3	44 Aquarii.....	5·9	R.D.	7 inch	I.	20 32 57·3	16 31 38·9	*g*.
517	3	,,	...	R.D.	Heliom.	H.	57·4	39·0	
518	12	132 Tauri.....	5·0	D.D.	Heliom.	H.	9 16 7·3	4 41 16·6	g.
519	12	,,	...	D.D.	10 inch	V.L.	6·4	15·7	g.
520	12	,,	...	D.D.	7 inch	I.	7·2	4 41 16·5	*g*, in two parts $0^s·1$ between.
521	12	B.D. + 24° 972...	9·2	D.D.	7 inch	I.	9 25 58·1	4 51 5·8	p.
522	12	W.B. (2) V. 1340..	8·0	D.D.	7 inch	I.	9 26 43·1	4 51 50·7	*g*.
523	13	B.D. + 22° 1451..	9·0	D.D.	7 inch	I.	10 10 15·7	5 31 20·2	*g*. 8·9 mag.
524	13	B.D. + 22° 1453..	8·5	D.D.	7 inch	I.	10 40 37·0	6 1 36·6	*g*.
525	13	B.D. + 23° 1477..	9·3	D.D.	7 inch	I.	10 45 10·5	6 6 9·3	p, tangential.
526	13	Lalande 12925.....	6·8	D.D.	7 inch	I.	10 46 4·2	6 7 2·9	*g*.
527	13	Lalande 12932.....	8·5	D.D.	7 inch	I.	10 48 52·6	6 9 50·8	*g*, faded.
528	13	B.D. + 23° 1477..	9·3	R.D.	7 inch	I.	10 50 42·5	6 11 40·4	*g*, tangential, remarkable. Note.
529	14	B.D. + 20° 1842..	9·8	D.D.	7 inch	I.	10 20 39·9	5 37 46·8	p, h 2396.
530	14	B.D. + 20° 1842..	9·5	D.D.	7 inch	I.	10 21 19·4	5 38 26·2	fr.
531	14	B.D. + 20° 1844..	8·7	D.D.	7 inch	I.	10 22 39·1	5 39 45·7	*g*.
532	14	W.B. (2) VII. 835	8·8	D.D.	7 inch	I.	11 35 14·6	6 52 9·5	*g*, gl.
533	14	Piazzi VII. 144....	6·8	D.D.	7 inch	I.	11 38 11·2	6 55 5·4	*g*.
534	19	Piazzi XI. 77	6·3	D.D.	7 inch	I.	13 5 35·0	8 2 35·3	*g*, gl., $0^s·3$, yellow. Note.
535	19	B.D. − 1° 2527...	9·3	D.D.	7 inch	I.	13 22 54·8	8 19 52·3	fr., faded.
536	20	Lalande 22853.....	8·6	D.D.	7 inch	I.	11 5 27·2	5 58 51·4	*g*.
537	24	δ Scorpii.....	2·7	D.D.	7 inch	H.	20 0 33·3	14 36 46·1	p.
538	24	,,	...	R.B.	7 inch	H.	20 27 28·8	15 3 37·2	p.
539	27	33 Sagittarii.....	5·8	R.D.	Heliom.	V.L.	12 51 23·0	7 16 58·4	p.
540	27	ξ Sagittarii.....	3·7	D.B.	7 inch	I.	13 43 56·8	8 9 23·6	p.
541	27	,,	...	R.D.	7 inch	I.	14 9 2·3	8 34 25·0	p, ?
542*	27	O.A. 18878.....	8·7	R.D.	7 inch	I.	14 13 13·8	8 38 35·8	Too faint for certainty. [S.T. diminished 1^m].
543	27	π Sagittarii.....	3·0	R.D.	7 inch	H.	20 39 9·5	15 3 28·3	p.
544	June 10	B.D. + 21° 1555..	9·1	D.D.	7 inch	I.	11 5 33·2	4 36 23·2	fr.
545	11	W.B. (2) VII. 1588	9·1	D.D.	7 inch	I.	11 22 58·1	4 49 49·3	*g*.
546	12	Mayer 392.....	8·2	D.D.	7 inch	I.	11 35 37·8	4 58 31·0	*g*.
547	12	Lalande 17552.....	8·3	D.D.	7 inch	I.	12 8 44·2	5 31 32·0	*g*.
548	12	Cape 1900, 4378...	9·7	D.D.	7 inch	I.	12 9 12·2	5 31 59·9	p.
549	12	B.D. + 14° 1990..	9·2	D.D.	7 inch	I.	12 13 41·8	5 36 28·8	*g*, gl.
550	12	B.D. + 14° 1993..	9·4	D.D.	7 inch	I.	12 19 23·4	5 42 9·4	g.

509. Probably some error in time or reap. not noted.
528. S. of a z′ pair; N. star not occulted, showed exactly where to watch.
534. Greater part of light disappeared suddenly.

Digitized by Google

No.	Moon's Tabular,				Var. in 1s.		Newcomb's Corr.		Star's Apparent,		Sec. of Mean,	
	R.A.	Dec.	Par.	S.-diam.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.
	h m s	° ′ ″	′ ″	″	″	″	s	″	h m s	° ′ ″	s	″
501	3 44 56·55	+ 22 50 39·1	...	...	...	...	...	...	...	...	...	...
502	3 45 38·89	+ 22 52 8·4	56 11·52	15 19·22	+0·569	+ 0·079	− 1·66	− 3·5	3 43 45·15	+ 23 24 21·5	43·88	15·2
503	38·90	...	...	...	...	...	...	...	...	...	...	...
504	3 45 44·81	+ 22 52 20·7	56 11·42	15 19·19	+0·569	+ 0·079	− 1·66	− 3·5	3 43 10·58	+ 23 44 46·7	9·32	40·2
505	...	...	...	..	...	...	...	...	...	...	...	...
506	3 45 50·81	+ 22 52 33·3	56 11·34	15 19·16	+0·569	+ 0·079	− 1·66	− 3·5	3 43 59·29	+ 23 32 35·4	58·02	29·1
507	50·83	...	...	...	...	...	...	...	...	...	...	...
508	7 11 45·26	+ 21 21 49·3	54 14·65	14 47·35	+0·519	− 0·102	− 1·51	+ 4·4	7 14 7·97	+ 22 10 3·0	5·51	6·3
509	12 45 58·69	− 10 16 23·1	56 11·56	15 19·23	+0·504	− 0·201	− 1·47	+ 8·7	12 46 10·56	− 9 47 37·8	7·52	18·5
510	20 24 40·48	− 16 20 25·2	59 17·96	16 10·05	+0·586	+ 0·181	− 1·71	− 7·9	20 23 4·52	− 16 4 26·2	2·12	32·9
511	22 9 22·03	− 6 33 28·3	59 5·72	16 6·71	+0·543	+ 0·231	− 1·58	− 10·0	22 10 24·81	− 6 9 50·5	23·12	58·2
512	22 9 28·36	− 6 32 47·9	59 5·70	16 6·70	+0·543	+ 0·231	− 1·59	− 10·0	22 10 32·57	− 6 11 21·5	30·88	29·2
513	22 10 45·80	− 6 24 33·5	59 5·42	16 6·63	+0·543	+ 0·231	− 1·59	− 10·0	22 11 31·54	− 6 6 9·7	29·86	17·4
514	22 10 57·03	− 6 23 21·7	59 5·39	16 6·62	+0·543	+ 0·231	− 1·59	− 10·0	22 11 26·59	− 5 55 15·1	24·91	22·7
515	22 11 18·68	− 6 21 3·3	59 5·31	16 6·59	+0·543	+ 0·231	− 1·59	− 10·0	22 11 40·71	− 5 52 59·1	39·03	66·7
516	22 11 35·14	− 6 19 17·9	59 5·25	16 6·58	+0·543	+ 0·232	− 1·59	− 10·0	22 11 51·86	− 5 53 21·9	50·16	29·7
517	...	...	...	...	...	...	...	...	...	...	...	...
518	5 44 43·33	+ 23 42 39·1	55 14·00	15 3·53	+0·561	− 0·034	− 1·65	+ 1·4	5 42 50·31	+ 24 32 1·5	49·04	0·6
519	43·00	...	...	...	...	...	...	...	...	...	...	...
520	43·33	...	...	...	...	...	...	...	...	...	...	...
521	5 45 5·39	+ 23 42 19·6	55 13·80	15 3·48	+0·561	− 0·034	− 1·65	+ 1·4	5 43 6·35	+ 24 10 39·5	5·08	38·7
522	5 45 7·07	+ 23 42 18·1	55 13·79	15 3·48	+0·561	− 0·034	− 1·65	+ 1·4	5 43 10·73	+ 24 11 21·9	9·46	21·1
523	6 39 27·51	+ 22 18 7·7	54 46·41	14 56·01	+0·539	− 0·080	− 1·57	+ 3·4	6 37 47·01	+ 22 50 20·8	45·55	22·1
524	6 40 32·82	+ 22 15 42·6	54 45·90	14 55·87	+0·539	− 0·080	− 1·57	+ 3·4	6 38 20·41	+ 22 40 48·6	18·95	49·9
525	6 40 42·62	+ 22 15 20·7	54 45·82	14 55·85	+0·539	− 0·080	− 1·57	+ 3·4	6 38 15·29	+ 23 5 28·5	13·83	29·7
526	6 40 44·54	+ 22 15 16·4	54 45·81	14 55·85	+0·539	− 0·080	− 1·57	+ 3·4	6 38 51·53	+ 22 56 21·4	50·07	22·7
527	6 40 50·57	+ 22 15 2·9	54 45·76	14 55·83	+0·539	− 0·080	− 1·57	+ 3·4	6 38 58·89	+ 22 53 31·7	57·42	33·0
528	6 40 54·51	+ 22 14 54·1	54 45·73	14 55·82	+0·539	− 0·080	− 1·57	+ 3·4	6 38 15·29	+ 23 5 28·5	13·83	29·7
529	7 30 19·35	+ 19 54 44·3	54 26·68	14 50·62	+0·515	− 0·118	− 1·51	+ 5·0	7 28 48·81	+ 20 23 29·3	47·16	33·2
530	7 30 20·70	+ 19 54 39·6	54 26·67	14 50·62	+0·515	− 0·118	− 1·51	+ 5·0	7 28 49·58	+ 20 23 24·2	47·93	28·1
531	7 30 23·43	+ 19 54 30·3	54 26·66	14 50·62	+0·515	− 0·118	− 1·51	+ 5·0	7 29 12·75	+ 20 32 15·4	11·10	19·3
532	7 32 52·44	+ 19 45 55·5	54 25·86	14 50·40	+0·514	− 0·120	− 1·50	+ 5·1	7 31 1·75	+ 20 16 29·5	0·10	33·5
533	7 32 58·47	+ 19 45 34·5	54 25·84	14 50·40	+0·514	− 0·120	− 1·50	+ 5·1	7 31 10·89	+ 20 22 59·6	9·23	63·6
534	11 23 7·03	− 1 38 36·5	55 13·60	15 3·42	+0·468	− 0·208	− 1·38	+ 9·1	11 22 46·63	− 1 8 56·9	44·02	38·4
535	11 23 39·42	− 1 42 11·9	55 14·00	15 3·53	+0·468	− 0·208	− 1·38	+ 9·1	11 22 51·95	− 1 21 73·3	49·34	54·8
536	12 4 50·43	− 6 11 50·9	55 47·69	15 12·72	+0·484	− 0·206	− 1·43	+ 9·0	12 5 60·40	− 5 59 45·0	57·56	24·9
537	15 57 5·77	− 22 56 16·0	58 59·08	16 4·90	+0·635	− 0·072	− 1·87	+ 3·2	15 54 25·56	− 22 20 14·7	21·58	3·1
538	15 58 13·92	− 22 58 12·6	58 59·74	16 5·07	+0·635	− 0·072	− 1·87	+ 3·1	15 54 25·56	− 22 20 14·7	21·58	3·1
539	18 45 38·71	− 22 1 38·0	59 56·90	16 20·67	+0·645	+ 0·101	− 1·89	− 4·4	18 47 61·79	− 21 28 56·0	57·98	60·3
540	18 47 53·90	− 21 56 14·1	59 57·10	16 20·72	+0·644	+ 0·104	− 1·89	− 4·5	18 51 46·05	− 21 14 16·9	42·26	21·5
541	18 48 58·37	− 21 53 37·0	59 57·19	16 20·74	+0·644	+ 0·106	− 1·89	− 4·5	18 51 46·05	− 21 14 16·9	42·26	21·5
542	18 49 9·14	− 21 53 10·6	59 57·21	16 20·74	+0·644	+ 0·106	− 1·88	− 4·5	18 51 39·19	− 21 16 57·4	35·40	62·0
543	19 5 35·56	− 21 9 35·9	59 58·15	16 21·00	+0·638	+ 0·121	− 1·87	− 5·2	19 3 49·22	− 21 10 57·3	45·47	63·0
544	7 12 14·21	+ 20 48 55·1	54 29·37	14 51·36	+0·525	− 0·106	− 1·55	+ 4·7	7 10 16·08	+ 21 16 12·0	14·61	15·2
545	8 1 55·45	+ 17 50 18·2	54 14·80	14 47·39	+0·501	− 0·139	− 1·47	+ 6·1	8 0 8·39	+ 18 16 45·1	6·82	50·6
546	8 49 13·23	+ 14 9 15·7	54 7·33	14 45·35	+0·479	− 0·165	− 1·41	+ 7·2	8 48 9·34	+ 14 47 19·4	7·64	27·4
547	8 50 16·52	+ 14 3 48·5	54 7·25	14 45·33	+0·479	− 0·166	− 1·41	+ 7·2	8 48 53·32	+ 14 37 29·0	51·62	37·1
548	8 50 17·41	+ 14 3 43·9	54 7·25	14 45·33	+0·479	− 0·166	− 1·41	+ 7·2	8 48 52·10	+ 14 35 40·7	50·40	48·9
549	8 50 25·99	+ 14 2 59·4	54 7·24	14 45·33	+0·479	− 0·166	− 1·41	+ 7·2	8 48 47·69	+ 14 48 40·1	45·99	48·2
550	8 50 36·87	+ 14 2 3·0	54 7·22	14 45·32	+0·479	− 0·166	− 1·41	+ 7·2	8 49 9·41	+ 14 38 15·2	7·71	23·3

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Cape Sid. Time.	G.M.T.	Remarks.
	1899.						h m s	h m s	
551	June 13	o Leonis.....	3·7	D.D.	7 inch	I.	13 15 44·5	6 34 25·4	*g*, i.
552	13	„	...	D.D.	Heliom.	H.	44·2	25·1	*g*.
553	13	„	...	D.D.	3·2 inch	V.L.	44·6	25·5	*g*, i.
554	13	W.B. IX. 741	9·1	D.D.	7 inch	I.	13 44 48·0	7 3 24·1	*g*, gl.
555	22	51 Ophiuchi.....	4·8	D.D.	7 inch	H.	17 10 15·6	9 52 54·9	?
556	25	τ Capricorni.....	5·2	R.D.	7 inch	I.	17 45 10·0	10 15 55·8	g, gl.
557	25	„	...	R.D.	Heliom.	H.	10·3	56·1	*g*.
558	July 18	δ Scorpii	2·7	D.B.	Heliom.	V.L.	19 27 36·3	10 27 39·4	gl., $0^s.4$.
559	18	„	...	D.B.	7 inch	I.	35·5	38·6	g.
560	18	„	...	R.B.	7 inch	I.	19 39 31·5	10 39 32·6	fr., not on spot, V.L. = 8^s later.
561	Aug. 10	Lalande 22853.....	8·6	D.D.	7 inch	I.	16 2 40·7	5 32 51·4	g, gl.
562	14	Lalande 28213.....	7·8	D.D.	7 inch	I.	15 41 52·3	4 56 22·8	*g*.
563	26	66 Arietis	6·1	R.D.	7 inch	H.	4 21 23·8	16 46 39·0	
564	27	Lalande 8202	8·5	R.D.	7 inch	I.	4 13 5·7	16 34 26·3	*g*.
565	27	62 Tauri.	6·2	R.D.	7 inch	I.	4 14 43·4	16 36 3·8	*g*.
566	Sept. 9	O.A. 13571.....	9·0	D.D.	7 inch	I.	17 49 48·9	5 21 44·8	*g*.
567*	9	O.A. 13575.....	9·0	D.D.	7 inch	I.	17 57 47·0	5 29 41·6	*g*, gl. [S.T. diminished 1^m].
568	12	C.Z. XVII. 401 ...	9·0	D.D.	7 inch	I.	19 31 15·4	6 51 7·0	*g*.
569*	12	Cor. D. − 23° 13234	9·3	D.D.	7 inch	I.	19 32 35·9	6 52 27·3	g. [S.T. increased 1^m].
570	12	O.A. 16470.....	9·0	D.D.	7 inch	I.	19 35 40·9	6 55 31·8	*g*.
571	12	C.P.D. − 23°6544	9·4	D.D.	7 inch	I.	19 45 24·3	7 5 13·6	fr.
572	12	O.A. 16474.....	9·3	D.D.	7 inch	I.	19 51 26·0	7 11 14·3	g.
573	Oct. 10	Lalande 32729.....	7·8	D.D.	7 inch	I.	20 38 0·8	6 7 36·1	*g*.
574	10	O.A. 17410.....	9·4	D.D.	7 inch	I.	21 17 2·2	6 46 31·1	*g*.
575	10	B.D. − 22° 4473..	9·3	D.D.	7 inch	I.	21 47 40·1	7 17 4·0	p, $\pm 1^s$.
576	10	„	...	D.D.	Heliom.	V.L.	39·3	3·2	*f*.
577	10	Lalande 32847.....	6·9	D.D.	7 inch	I.	21 49 21·1	7 18 44·7	*g*.
578	10	„	...	D.D.	Heliom.	V.L.	20·8	44·4	*g*.
579	10	Lalande 32852.....	8·5	D.D.	7 inch	I.	21 56 34·1	7 25 56·5	*g*.
580	10	„	...	D.D.	Heliom.	V.L.	33·6	56·0	g.
581	10	Lalande 32865.....	7·1	D.D.	7 inch	I.	22 4 21·7	7 33 42·8	*g*.
582	10	„	...	D.D.	Heliom.	V.L.	21·1	42·2	g.
583	10	B.D. − 22° 4481..	9·3	D.D.	7 inch	I.	22 18 14·1	7 47 33·0	*g*.
584	10	„	...	D.D.	Heliom.	V.L.	13·9	32·7	fr.
585	10	Lalande 32886.....	7·2	D.D.	7 inch	I.	22 20 53·1	7 50 11·6	*g*.
586	10	„	...	D.D.	Heliom.	V.L.	53·3	11·8	g.
587	10	Cape 1900, 4394...	9·2	D.D.	Heliom.	V.L.	22 21 31·1	7 50 49·5	*f*, ?.
588	10	B.D. − 22° 4482..	8·9	D.D.	7 inch	I.	22 22 28·7	7 51 46·9	*g*.
589	11	36 Sagittarii	5·1	D.D.	7 inch	I.	21 32 52·2	6 58 22·6	g, gl.
590	11	„	...	D.D.	Heliom.	H.	52·2	22·6	p.
591	13	W.B. XX. 1209....	8·0	D.D.	7 inch	I.	23 29 42·1	8 47 1·5	g, gl.
592	27	o Leonis.....	3·7	R.D.	7 inch	I.	5 33 13·8	13 54 30·9	g.
593	Nov. 6	O A. 17100.....	8·9	D.D.	7 inch	I.	22 50 31·9	6 33 35·9	p. S. pr. of double.
594	7	B.D. − 21° 5108..	9·5	D.D.	7 inch	I.	23 3 39·2	6 42 45·2	g.
595	7	Lalande 34658.....	7·4	D.D.	7 inch	I.	23 27 12·4	7 6 14·5	*g*.
596	7	„	...	D.D.	Heliom.	V.L.	12·6	14·7	*g*.
597	7	C.G.A. 22719.....	8·0	D.D.	7 inch	I.	23 58 34·6	7 37 31·6	*g*, red (7·5).
598	7	O.A. 18626.....	8·7	D.D.	7 inch	I.	0 17 47·5	7 56 41·3	*g*.
599	7	Lalande 34718.....	8·2	D.D.	7 inch	I.	0 19 47·6	7 58 41·1	*g*.
600	7	O.A. 15982.....	8·9	D.D.	7 inch	I.	0 23 38·4	8 2 31·3	*g*.

Digitized by Google

No.	Moon's Tabular,				Var. in 1s.		Newcomb's Corr.		Star's Apparent,		Sec. of Mean,	
	R.A.	Dec.	Par.	S.-diam.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.
	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
551	9 37 24·82	+ 9 39 45·2	54 8·53	14 45·69	+ 0·463	− 0·185	− 1·36	+ 8·1	9 35 47·52	+ 10 20 55·8	45·66	66·8
552	24·81	45·3	...	...	...	...	...	...	...	...	...	...
553	24·82	45·2	...	...	...	...	...	...	...	...	...	...
554	9 38 18·50	+ 9 34 23·7	54 8·66	14 45·72	+0·463	− 0·185	− 1·36	+ 8·1	9 36 8·09	+ 9 55 16·3	6·24	27·3
555	17 24 7·62	− 23 54 19·2	60 3·85	16 22·55	+0·667	+ 0·018	− 1·96	− 0·8	17 25 19·61	− 23 53 7·3	15·16	4·1
556	20 32 24·27	− 15 33 19·8	60 42·17	16 33·01	+0·612	+ 0·196	− 1·80	− 8·5	20 33 41·50	− 15 18 18·3	37·54	32·8
557	24·28	19·7	...	...	...	...	...	...	...	...	...	...
558	15 57 4·02	− 22 54 54·7	58 32·46	15 57·64	+0·620	− 0·072	− 1·84	+ 3·0	15 54 25·63	− 22 20 15·0	21·58	3·1
559	3·99	54·6	...	...	...	...	...	...	...	...	...	...
560	15 57 33·55	− 22 55 45·3	58 32·93	15 57·77	+0·622	− 0·070	− 1·84	+ 3·0	15 54 25·63	− 22 20 15·0	21·58	3·1
561	12 7 41·05	− 6 22 36·7	54 38·24	14 53·78	+0·466	− 0·196	− 1·37	+ 8·6	12 5 59·65	− 5 59 39·9	57·56	25·0
562	15 24 15·94	− 21 35 24·8	57 11·33	15 35·52	+0·580	− 0·097	− 1·71	+ 4·3	15 24 54·01	− 21 31 70·0	50·53	56·8
563	3 24 16·23	+ 21 29 55·7	56 57·35	15 31·70	+0·575	+ 0·096	− 1·71	− 4·2	3 22 36·00	+ 22 27 33·8	32·20	21·6
564	4 18 56·39	+ 23 11 56·7	56 7·69	15 18·17	+0·572	+ 0·045	− 1·69	− 2·0	4 17 55·91	+ 24 4 14·1	52·28	6·7
565	4 19 0·11	+ 23 12 1·1	56 7·63	15 18·15	+0·572	+ 0·045	− 1·69	− 2·0	4 17 57·90	+ 24 3 63·3	54·27	55·9
566	14 19 5·64	− 17 47 33·9	55 51·93	15 13·88	+0·531	− 0·143	− 1·57	+ 6·3	14 17 17·41	− 17 35 63·2	14·83	49·4
567	14 19 22·53	− 17 48 41·7	55 52·13	15 13·93	+0·532	− 0·141	− 1·57	+ 6·3	14 17 33·76	− 17 35 46·3	31·18	32·5
568	17 8 31·96	− 23 33 5·2	57 56·90	15 47·95	+0·615	0·000	− 1·81	+ 0·1	17 7 33·86	− 23 22 53·7	30·10	49·1
569	17 8 35·25	− 23 33 5·3	57 56·94	15 47·95	+0·615	0·000	− 1·81	+ 0·1	17 7 38·24	− 23 18 19·7	34·48	15·1
570	17 8 42·81	− 23 33 5·4	57 57·04	15 47·98	+0·615	0·000	− 1·81	+ 0·1	17 7 19·96	− 23 6 44·2	16·21	39·7
571	17 9 6·66	− 23 33 5·7	57 57·35	15 48·06	+0·615	0·000	− 1·81	0·0	17 7 58·29	− 23 22 28·3	54·53	23·8
572	17 9 21·44	− 23 33 5·7	57 57·55	15 48·12	+0·615	0·000	− 1·81	0·0	17 7 35·84	− 23 3 60·6	32·09	56·1
573	17 51 53·50	− 22 55 59·6	57 59·35	15 48·61	+0·612	+ 0·042	− 1·81	− 1·8	17 50 7·90	− 22 26 31·6	4·41	31·7
574	17 53 28·76	− 22 54 20·0	58 0·25	15 48·86	+0·612	+ 0·044	− 1·81	− 1·9	17 51 51·31	− 22 33 23·1	47·80	23·3
575	17 54 43·54	− 22 52 59·4	58 0·95	15 49·05	+0·612	+ 0·044	− 1·81	− 2·0	17 52 51·13	− 22 31 10·3	47·71	10·6
576	43·51	...	...	...	...	...	...	...	...	...	...	...
577	17 54 47·65	− 22 52 54·8	58 1·00	15 49·06	+0·612	+ 0·044	− 1·81	− 2·0	17 52 54·29	− 22 30 26·4	50·87	26·7
578	47·64	...	...	...	...	...	...	...	...	...	...	...
579	17 55 5·26	− 22 52 35·5	58 1·16	15 49·11	+0·612	+ 0·044	− 1·81	− 2·0	17 52 55·21	− 22 22 15·0	51·70	15·4
580	5·24	...	...	...	...	...	...	...	...	...	...	...
581	17 55 24·30	− 22 52 14·4	58 1·34	15 49·15	+0·612	+ 0·046	− 1·81	− 2·0	17 53 23·53	− 22 27 28·3	20·02	28·7
582	24·28	...	...	...	...	...	...	...	...	...	...	...
583	17 55 58·17	− 22 51 36·6	58 1·67	15 49·24	+0·612	+ 0·046	− 1·81	− 2·0	17 53 44·32	− 22 37 28·4	40·81	28·7
584	58·16	...	...	...	...	...	...	...	...	...	...	...
585	17 56 4·64	− 22 51 29·3	58 1·73	15 49·26	+0·612	+ 0·046	− 1·81	− 2·0	17 53 57·81	− 22 32 26·6	54·29	27·0
586	4·65	...	...	...	...	...	...	...	...	...	...	...
587	17 56 6·19	− 22 51 27·6	58 1·74	15 49·26	+0·612	+ 0·046	− 1·81	− 2·0	17 53 59·13	− 22 32 25·0	55·61	25·4
588	17 56 8·53	− 22 51 24·9	58 1·76	15 49·27	+0·612	+ 0·046	− 1·81	− 2·0	17 53 47·64	− 22 38 56·6	44·12	56·9
589	18 52 36·93	− 21 9 59·6	58 33·81	15 58·01	+0·608	+ 0·100	− 1·79	− 4·4	18 51 24·18	− 20 47 12·3	20·41	18·2
590	...	...	...	...	...	...	...	...	...	...	...	...
591	20 51 16·09	− 13 39 44·6	59 36 51	16 15·10	+0·581	+ 0·195	− 1·72	− 8·6	20 50 10·41	− 13 14 50·9	6·30	69·7
592	9 34 7·01	+ 9 42 1·6	54 10·84	14 46·31	+0·466	− 0·178	− 1·39	+ 7·9	9 35 48·93	+ 10 20 51·1	45·66	66·8
593	17 39 19·23	− 22 56 56·3	58 6·38	15 50·52	+0·618	+ 0·032	− 1·83	− 1·5	17 36 37·92	− 22 19 5·4	34·83	5·2
594	18 38 50·01	− 21 30 15·2	58 28·81	15 56·64	+0·612	+ 0·089	− 1·82	− 3·8	18 36 34·11	− 21 15 40·0	30·81	44·8
595	18 39 47·49	− 21 28 10·6	58 29·14	15 56·73	+0·612	+ 0·089	− 1·82	− 3·9	18 37 34·59	− 21 0 59·6	31·29	64·5
596	47·50	...	...	...	...	...	...	...	...	...	...	...
597	18 41 4·03	− 21 25 22·7	58 29·58	15 56·85	+0·611	+ 0·091	− 1·82	− 3·9	18 38 39·97	− 21 4 19·3	36·67	24·3
598	18 41 50·90	− 21 23 38·7	58 29·85	15 56·92	+0·611	+ 0·091	− 1·82	− 4·0	18 39 29·28	− 20 53 12·9	25·98	17·9
599	18 41 55·78	− 21 23 27·8	58 29·87	15 56·93	+0·611	+ 0·091	− 1·82	− 4·0	18 39 20·16	− 20 44 57·0	16·86	62·1
600	18 42 5·16	− 21 23 6·9	58 29·93	15 56·95	+0·611	+ 0·091	− 1·82	− 4·0	18 39 20·21	− 21 6 9·5	16·90	14·5

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Cape Sid. Time.	G.M.T.	Remarks.
	1899.						h m s	h m s	
601	Nov. 10	W.B. XXI. 599....	8·5	D.D.	7 inch	I.	23 58 55·7	7 26 4·9	*g.*
602	10	Piazzi XXI. 186...	8·0	D.D.	7 inch	I.	0 38 55·2	8 5 57·8	*g.*
603	10	Lalande 41973.....	9·2	D.D.	7 inch	I.	0 39 40·8	8 6 43·3	*g.*
604	11	W.B. XXII. 455...	8·5	D.D.	7 inch	I.	1 36 26·2	8 59 23·5	*g.*
605	11	,,	...	D.D.	Heliom.	V.L.	26·6	23·9	*g.*
606	11	Lalande 43981.....	6·3	D.D.	Heliom.	V.L.	2 47 56·4	10 10 42·0	g.
607	11	,,	...	D.D.	7 inch	I.	56·9	42·5	*g.*
608	12	Lalande 45712.....	7·7	D.D.	7 inch	I.	1 17 6·8	8 36 11·4	*g.* Nf. 7·7, 9·4 4″ 200°.
609	13	36 Piscium.....	6·2	D.D.	10 inch	H.	2 34 50·8	9 49 46·7	g.
610	13	,,	...	D.D.	Heliom.	V.L.	50·5	46·4	*g.*
611	13	,,	...	D.D.	7 inch	I.	51·2	47·1	*g.*
612	14	75 Piscium.....	6·3	D.D.	7 inch	I.	0 3 41·1	7 15 15·9	fr., hazy, close to terminator.
613	18	99 Tauri	6·0	R.D.	7 inch	I.	1 49 56·8	8 45 20·5	g.
614	22	W.B. (2) VIII. 635	8·7	R.D.	7 inch	I.	4 57 13·6	11 36 23·0	*g.*
615	22	W.B. (2) VIII. 645	9·4	R.D.	7 inch	I.	5 17 6·5	11 56 12·6	p.
616	22	Mayer 366.....	6·3	R.D.	7 inch	I.	5 40 57·6	12 19 59·8	g.
617	Dec. 8	W.B. (2) XXII. 67	8·9	D.D.	7 inch	I.	0 47 45·9	6 24 41·6	*g.*
618	8	Bradley 2920.....	6·4	D.D.	7 inch	I.	1 30 5·2	7 6 53·9	*g.*
619	13	μ Arietis	5·7	D.D.	7 inch	I.	2 45 19·5	8 2 16·4	*g*, gl.
620	13	,,	...	D.D.	Heliom.	V.L.	19·4	16·3	*g.*
	1900.								
621	Jan. 5	Lalande 44670.....	7·3	D.D.	7 inch	I.	3 32 43·4	7 19 6·5	p, haze.
622†	6	W.B. XXIII. 774.	8·2	D.D.	7 inch	I.	3 50 6·0	7 32 30·4	*g.*
623	23	Virginis 40 H.....	5·2	R.D.	7 inch	I.	10 53 59·1	13 28 23·5	*g*, orange red (6).
624	Feb. 3	*d* Piscium.....	5·4	D.D.	7 inch	I.	5 3 18·1	6 55 25·0	*g.*
625	3	,,	...	D.D.	6 inch	H.	18·3	25·2	p.
626*†	8	W.B. (2) IV. 1223.	9·1	D.D.	7 inch	I.	6 30 21·5	8 2 34·6	fr. [S.T. diminished 1^m].
627	12	Mayer 366.....	6·3	D.D.	7 inch	I.	10 7 48·8	11 23 42·6	*g.*
628	12	,,	...	D.D.	6 inch	H.	48·9	42·7	*g.*
629	Mar. 5	W.B. (2) II. 951...	8·9	D.D.	7 inch	I.	6 30 38·2	6 24 33·5	*g.*
630	5	W.B. (2) II. 958...	8·6	D.D.	7 inch	I.	6 38 42·1	6 32 36·1	*g.*
631	6	B.D. + 21° 526...	8·4	D.D.	7 inch	I.	7 57 38·7	7 47 23·9	*g*, gl. A.G.C. = ? dupl.
632	7	Bradley 654.....	6·2	D.D.	7 inch	I.	8 6 37·6	7 52 25·4	g, tangential.
633	7	,,	...	D.D.	6 inch	H.	36·6	24·4	?.
634	8	Piazzi V. 192.....	6·0	D.D.	6 inch	H.	8 38 32·3	8 20 18·9	g.
635	8	,,	...	D.D.	7 inch	I.	32·0	18·6	*g.*
636	23	Lalande 33147.....	8·3	R.D.	7 inch	I.	12 38 30·3	11 20 39·0	*g.*
637	23	Mayer 734.....	6·2	R.D.	7 inch	I.	12 43 36·0	11 25 43·9	*g.*
638	23	14 Sagittarii.....	5·6	R.D.	7 inch	H.	16 36 13·2	15 17 43·0	g.
639†	23	B.D. − 21° 4918..	9·3	R.D.	7 inch	H.	16 42 4·9	15 23 33·7	?, *f.*
640†	23	O.A. 17878.....	9·1	R.D.	7 inch	H.	16 49 44·1	15 31 11·7	?, e.
641	26	ν Aquarii.....	4·4	R.D.	7 inch	I.	18 14 25·3	16 43 51·3	*g*, daylight.
642	Apr. 2	τ Arietis.....	5·1	D.D.	Heliom.	I.	8 0 3·6	6 3 38·9	fr.
643	2	,,	...	D.D.	6 inch	H.	3·6	38·9	g.
644	5	η Geminorum.....	Var.	D.D.	6 inch	H.	7 11 58·4	5 3 53·8	*g.*
645	5	,,	...	D.D.	7 inch	I.	58·1	53·5	*g.*
646	16	ι Libræ.....	4·5	R.D.	7 inch	I.	18 19 25·5	15 26 16·6	g, gl.
647	16	,,	...	R.D.	6 inch	H.	24·6	15·7	foggy.
648	May 3	B.D. + 21° 1387..	9·0	D.D.	7 inch	I.	9 28 19·3	5 29 47·0	g.
649	3	B.D. + 21° 1403..	9·5	D.D.	7 inch	I.	10 52 6·2	6 53 20·1	fr.
650	5	B.D. + 15° 1835 seq.	9·4	D.D.	7 inch	I.	9 23 40·4	5 17 17·0	g.

622. Identified by observer as W.B. XXIII. 934.
626. ,, ,, ,, ,, Lalande 9503.
639, 640. Observer's identification transposed.

Digitized by Google

No.	Moon's Tabular,				Var. in 1ˢ.		Newcomb's Corr.		Star's Apparent,		Sec. of Mean,	
	R.A.	Dec.	Par.	S.-Diam.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.
	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
601	21 29 18·58	− 10 3 25·7	59 14·04	16 8·97	+0·559	+ 0·210	− 1·67	− 9·3	21 28 19·21	− 9 34 32·8	15·42	54·2
602	21 30 47·71	− 9 55 0·2	59 14·27	16 9·03	+0·559	+ 0·211	− 1·67	− 9·3	21 29 23·19	− 9 31 46·5	19·40	68·0
603	21 30 49·40	− 9 54 50·6	59 14·27	16 9·03	+0·559	+ 0·211	− 1·67	− 9·3	21 29 23·51	− 9 23 35·0	19·72	56·5
604	22 25 47·63	− 4 24 21·5	59 20·93	16 10·86	+0·548	+ 0·229	− 1·63	− 10·1	22 24 11·28	− 3 44 14·4	7·30	40·5
605	47·64	21·4	...	...	...	...	...	...	...	...	...	...
606	22 28 23·79	− 4 8 0·6	59 21·10	16 10·90	+0·547	+ 0·229	− 1·63	− 10·1	22 26 9·13	− 3 25 16·6	5·14	43·0
607	23·81	0·5	...	...	...	...	...	...	...	...	...	...
608	23 17 21·41	+ 1 4 22·8	59 21·76	16 11·08	+0·546	+ 0·233	− 1·62	− 10·3	23 15 45·23	+ 1 54 41·5	41·03	12·3
609	0 12 40·88	+ 6 51 32·8	59 15·52	16 9·39	+0·552	+ 0·223	− 1·64	− 9·9	0 11 27·08	+ 7 40 75·9	22·58	45·3
610	40·87	32·7	...	...	...	...	...	...	...	...	...	...
611	40·89	32·9	...	...	...	...	...	...	...	...	...	...
612	1 0 29·29	+ 11 27 13·4	59 3·53	16 6·12	+0·564	+ 0·204	− 1·68	− 9·0	1 1 19·53	+ 12 24 82·9	14·74	52·8
613	4 50 28·86	+ 23 4 4·2	56 57·01	15 31·61	+0·596	+ 0·015	− 1·78	− 0·7	4 51 46·72	+ 23 47 34·9	40·96	27·2
614	8 27 52·00	+ 15 16 5·4	54 35·84	14 53·13	+0·494	− 0·152	− 1·48	+ 6·7	8 29 41·71	+ 16 4 21·0	37·05	38·2
615	8 28 31·21	+ 15 13 5·3	54 35·56	14 53·06	+0·494	− 0·152	− 1·48	+ 6·8	8 29 56·37	+ 15 58 8·6	51·71	25·8
616	8 29 18·22	+ 15 9 28·8	54 35·21	14 52·96	+0·494	− 0·152	− 1·48	+ 6·8	8 30 32·58	+ 15 39 29·8	27·94	47·0
617	22 8 15·86	− 6 7 35·0	59 21·56	16 11·03	+0·551	+ 0·225	− 1·65	− 10·0	22 6 41·02	− 5 24 51·6	37·45	74·9
618	22 9 48·82	− 5 58 4·6	59 21·27	16 10·94	+0·550	+ 0·225	− 1·65	− 10·0	22 7 31·90	− 5 12 44·7	28·32	67·8
619	2 35 57·90	+ 18 40 52·8	57 45·55	15 44·85	+0·577	+ 0·135	− 1·71	− 6·0	2 36 45·60	+ 19 34 76·3	40·18	52·0
620	...	...	...	...	...	...	...	...	...	...	...	...
621	22 49 5·79	− 1 54 41·8	59 55·96	16 20·41	+0·557	+ 0·236	− 1·67	− 10·5	22 45 34·81	− 1 6 22·4	34·42	27·6
622	23 42 33·10	+ 3 45 49·8	59 26·90	16 12·49	+0·548	+ 0·230	− 1·65	− 10·2	23 40 12·43	+ 4 33 49·7	11·71	42·9
623	14 3 25·63	− 16 25 15·3	55 27·86	15 7·31	+0·515	− 0·146	− 1·55	+ 6·5	14 5 24·11	− 15 49 51·8	22·70	46·8
624	0 17 43·55	+ 7 11 26·4	60 5·05	16 22·88	+0·568	+ 0·226	− 1·71	− 10·1	0 15 27·68	+ 7 38 11·0	27·08	5·6
625	43·56	...	...	...	...	...	...	...	...	...	...	...
626	4 56 51·79	+ 22 55 28·1	56 10·55	15 18·95	+0·576	+ 0·011	− 1·72	− 0·5	4 56 34·44	+ 23 44 54·5	32·06	52·7*
627	8 30 54·02	+ 15 3 42·5	54 20·94	14 49·06	+0·494	− 0·150	− 1·49	+ 6·8	8 30 34·21	+ 15 39 22·3	31·31	34·7
628	...	...	...	...	...	...	...	...	...	...	...	...
629	2 43 45·30	+ 18 36 56·1	58 55·17	16 3·83	+0·599	+ 0·134	− 1·80	− 6·1	2 41 45·97	+ 19 25 37·9	44·89	33·2
630	2 44 4·57	+ 18 38 0·4	58 54·85	16 3·74	+0·599	+ 0·132	− 1·80	− 6·1	2 41 59·10	+ 19 26 59·3	58·02	54·6
631	3 44 34·40	+ 21 18 30·7	57 54·45	15 47·28	+0·598	+ 0·078	− 1·80	− 3·6	3 42 25·99	+ 22 4 16·7	24·55	12·9
632	4 41 47·86	+ 22 32 54·6	56 59·28	15 32·24	+0·589	+ 0·025	− 1·77	− 1·2	4 39 41·94	+ 23 26 41·1	40·18	38·9
633	47·82	...	...	...	...	...	...	...	...	...	...	...
634	5 38 37·73	+ 22 31 23·8	56 9·05	15 18·54	+0·572	− 0·026	− 1·72	+ 1·1	5 37 17·23	+ 23 9 24·4	15·13	24·4
635	37·72	...	...	...	...	...	...	...	...	...	...	...
636	17 58 34·77	− 22 3 14·5	57 29·51	15 40·48	+0·596	+ 0·045	− 1·79	− 2·0	18 0 53·21	− 21 30 51·8	51·12	53·0
637	17 58 46·89	− 22 3 0·5	57 29·69	15 40·53	+0·596	+ 0·045	− 1·79	− 2·0	18 1 13·51	− 21 27 13·7	11·44	14·9
638	18 8 0·59	− 21 51 22·6	57 37·47	15 42·65	+0·597	+ 0·054	− 1·80	− 2·4	18 8 17·48	− 21 44 22·0	15·44	23·7
639	18 8 14·56	− 21 51 3·5	57 37·67	15 42·70	+0·597	+ 0·054	− 1·80	− 2·4	18 8 41·57	− 21 49 15·1	39·52	16·9
640	18 8 32·79	− 21 50 38·4	57 37·93	15 42·78	+0·597	+ 0·056	− 1·80	− 2·4	18 8 41·72	− 21 45 28·7	39·68	30·4
641	21 3 0·27	− 12 13 33·6	60 6·45	16 23·26	+0·588	+ 0·199	− 1·78	− 8·9	21 4 9·89	− 11 46 31·3	8·87	35·8
642	...	...	...	...	...	...	...	...	...	...	...	...
643	3 17 44·59	+ 20 4 35·7	59 10·47	16 8·00	+0·618	+ 0·105	− 1·86	− 4·7	3 15 28·04	+ 20 47 14·4	27·13	11·9
644	6 8 42·46	+ 21 44 31·5	56 25·33	15 22·98	+0·572	− 0·053	− 1·72	+ 2·3	6 8 52·26	+ 22 32 6·4	50·49	9·2
645	42·45	...	...	...	...	...	...	...	...	...	...	...
646	15 10 4·88	− 19 40 19·6	55 31·56	15 8·31	+0·544	− 0·098	− 1·64	+ 4·4	15 6 34·54	− 19 24 59·7	31·17	48·1
647	4·85	19·5	...	...	...	...	...	...	...	...	...	...
648	6 44 9·94	+ 20 30 20·9	56 28·91	15 23·95	+0·566	− 0·082	− 1·72	+ 3·7	6 42 15·21	+ 20 57 36·3	13·72	41·2
649	6 47 18·63	+ 20 23 17·0	56 26·06	15 23·18	+0·564	− 0·086	− 1·71	+ 3·8	6 45 26·85	+ 21 1 7·0	25·34	12·0
650	8 26 13·72	+ 14 50 57·5	55 5·63	15 1·25	+0·504	− 0·147	− 1·52	+ 6·7	8 25 59·29	+ 15 19 38·8	57·39	49·2

626. Mean R.A. and Dec. from A.G.C.

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Cape Sid. Time.	G.M.T.	Remarks.
	1900.						h m s	h m s	
651	May 5	B.D.+15° 1835 (*pr.*)	9·6	D.D.	7 inch	I.	9 25 5·2	5 18 41·6	g, gl.
652	5	B.D. + 15° 1839..	9·2	D.D.	7 inch	I.	9 36 36·2	5 30 10·7	*g*, gl, ? double.
653	16	52 Ophiuchi.....	6·4	R.D.	7 inch	I.	14 51 30·8	10 0 58·7	g.
654	16	Bradley 2219.....	6·7	R.D.	7 inch	I.	17 0 46·8	12 9 53·5	*g*.
655	16	58 Ophiuchi.....	4·8	R.D.	7 inch	I.	19 54 33·6	15 3 11·9	g.
656	20	W.B. XXI. 397....	9·0	R.D.	7 inch	I.	17 48 28·4	12 41 43·7	fr.
657	20	19 Aquarii.....	5·6	R.D.	7 inch	I.	17 53 51·5	12 47 5·9	*g*.
658*	June 8	Lalande 25075.....	7·4	D.D.	6 inch	H.	10 56 7·7	4 35 48·2	g. [S.T. increased 5^m.]
659	8	W.B. XIII. 445....	9·1	D.D.	6 inch	H.	11 3 49·5	4 43 28·8	
660	8	,,	...	D.D.	7 inch	I.	49·0	28·3	fr.
661	8	Piazzi XIII. 126...	6·0	D.D.	7 inch	I.	11 14 40·0	4 54 17·5	g. Began to fade 2^s·3 earlier. β 932.
662	8	,,	...	D.D.	6 inch	H.	39·4	16·9	Final disappearance.
663	13	Mayer 734.....	6·2	R.D.	7 inch	G.J.	12 43 9·1	6 2 52·5	
664	13	μ Sagittarii.....	4·0	R.D.	7 inch	G.J.	15 46 17·3	9 5 30·7	
665	14	Bradley 2402.....	5·4	R.D.	7 inch	V.L.	14 7 9·7	7 22 43·5	p.
666	14	*d* Sagittarii.....	5·1	R.D.	6 inch	H.	19 26 24·2	12 41 5·7	g.
667	14	,,	...	R.D.	7 inch	I.	24·3	5·8	*g*. [S.T. diminished 3^m.]
668	14	45 Sagittarii.....	6·0	R.D.	7 inch	I.	22 5 1·9	15 19 17·4	*g*.
669	July 3	Lalande 22259.....	7·5	D.D.	7 inch	I.	13 32 21·1	5 33 18·2	*g*.
670	3	B.D. − 2° 3415...	9·4	D.D.	7 inch	I.	14 20 6·6	6 20 55·9	*g*.
671	4	B.D. − 7° 3420...	8·8	D.D.	7 inch	I.	13 36 6·8	5 33 7·4	
672	6	Virginis 40 H.....	5·2	D.D.	7 inch	I.	17 24 1·8	9 12 33·3	*g*, deep orange.
673	6	,,	...	D.D.	6 inch	H.	2·2	33·7	
674	6	,,	...	D.D.	3 inch	G.J.	2·2	33·7	
675	10	58 Ophiuchi.....	4·8	D.D.	18 inch	L.	12 55 45·2	4 29 17·0	
676	10	,,	...	D.D.	7 inch	I.	45·5	17·3	*g*.
677	Aug. 4	C.G.A. 21033.....	8·5	D.D.	7 inch	I.	17 9 60·3	7 4 32·7	*g*.
678	4	,,	...	D.D.	18 inch	L.	59·5	31·9	*g*.
679	4	Mayer 621.....	6·1	D.D.	18 inch	L.	17 10 32·8	7 5 5·1	*g*.
680	4	,,	...	D.D.	7 inch	I.	32·7	5·0	*g*.
681	7	μ Sagittarii.....	4·0	D.D.	18 inch	L.	12 53 14·9	2 36 41·6	daylight.
682	8	*d* Sagittarii.....	5·1	D.D.	18 inch	L.	15 20 40·5	4 59 47·1	g.
683	8	,,	...	D.D.	6 inch	H.	40·7	47·3	g.
684	8	,,	...	D.D.	7 inch	I.	40·9	47·5	*g*.
685	8	Mayer 797.....	6·8	D.D.	18 inch	L.	15 37 10·1	5 16 14·0	p.
686	8	,,	...	D.D.	7 inch	I.	10·8	14·7	g.
687	8	Piazzi XIX. 43....	7·2	D.D.	7 inch	I.	15 55 39·0	5 34 39·9	fr.
688	13	d Piscium	5·4	R.D.	7 inch	I.	3 9 36·1	16 27 7·0	?, might be 1^s late.
689	17	A. Tauri.....	4·5	R.D.	7 inch	I.	23 38 53·8	12 41 15·6	*g*.
690	28	Lalande 23852	8·5	D.D.	7 inch	I.	16 52 30·3	5 12 43·7	*g*.
691	28	Lalande 23853	9·0	D.D.	7 inch	I.	16 54 27·2	5 14 40·3	*g*.
692	28	Lalande 23884.....	7·6	D.D.	7 inch	I.	17 32 50·8	5 52 57·6	*g*.
693	28	,,	...	D.D.	18 inch	L.	50·5	57·3	*g*.
694	30	B.D. − 15° 3858..	9·4	D.D.	7 inch	I.	17 7 10·5	5 19 29·7	fr, gl.
695	Sept. 1	Piazzi XV. 244.....	8·5	D.D.	7 inch	I.	17 44 46·0	5 49 7·2	*g*.
696	1	O.A. 15204.....	8·7	D.D.	7 inch	I.	18 35 8·6	6 39 21·6	fr.
697	1	Lalande 29305.....	8·3	D.D.	7 inch	I.	19 21 36·8	7 25 42·2	g.
698	1	,,	...	D.D.	6 inch	H.	36·9	42·3	g.
699	1	ω^2 Scorpii.....	4·6	D.D.	6 inch	H.	19 24 0·6	7 28 5·6	g.
700	1	,,	...	D.D.	18 inch	L.	0·6	5·6	

Digitized by Google

No.	Moon's Tabular,				Var. in 1s.		Newcomb's Corr.		Star's Apparent,		Sec. of Mean,	
	R.A.	Dec.	Par.	S.-diam.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.
	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
651	8 26 16·57	+ 14 50 45·1	55 5·59	15 1·24	+0·504	− 0·147	− 1·52	+ 6·7	8 25 56·68	+ 15 18 49·4	54·77	59·8
652	8 26 39·71	+ 14 49 3·4	55 5·33	15 1·17	+0·503	− 0·148	− 1·52	+ 6·7	8 26 35·03	+ 15 22 32·1	33·12	42·6
653	17 28 18·42	− 22 10 41·1	57 5·56	15 33·95	+0·595	+ 0·019	− 1·78	− 0·9	17 29 21·27	− 21 58 35·1	17·51	35·1
654	17 33 25·27	− 22 7 53·6	57 8·23	15 34·67	+0·595	+ 0·024	− 1·79	− 1·1	17 32 48·03	− 21 51 12·5	44·28	12·8
655	17 40 18·11	− 22 3 11·4	57 11·82	15 35·66	+0·596	+ 0·030	− 1·79	− 1·3	17 37 29·94	− 21 38 3·8	26·21	4·5
656	21 18 11·86	− 10 35 57·4	58 53·58	16 3·40	+0·558	+ 0·197	− 1·68	− 8·7	21 19 57·84	− 10 19 19·9	55·36	31·9
657	21 18 23·85	− 10 34 54·1	58 53·66	16 3·42	+0·558	+ 0·197	− 1·68	− 8·7	21 19 53·15	− 10 10 16·1	50·66	28·0
658	13 26 16·46	− 13 9 58·6	54 53·05	14 57·81	+0·495	− 0·157	− 1·51	+ 7·1	13 29 12·02	− 12 50 20·0	8·80	1·9
659	13 26 31·66	− 13 11 11·2	54 53·19	14 57·85	+0·495	− 0·157	− 1·51	+ 7·1	13 29 16·79	− 12 55 70·4	13·58	52·3
660	31·64	11·1	...	...	...	...	...	...	...	...	...	...
661	13 26 53·07	− 13 12 53·3	54 53·39	14 57·91	+0·495	− 0·157	− 1·51	+ 7·1	13 29 24·64	− 12 42 23·3	21·43	5·2
662	53·05	53·2	...	...	...	...	...	...	...	...	...	...
663	17 58 52·62	− 21 45 15·8	57 50·83	15 46·29	+0·608	+ 0·048	− 1·85	− 2·1	18 1 15·66	− 21 27 11·3	11·44	14·9
664	18 6 16·63	− 21 35 50·6	57 55·02	15 47·44	+0·608	+ 0·055	− 1·85	− 2·4	18 7 51·17	− 21 5 1·9	46·97	6·2
665	19 0 18·81	− 19 49 22·8	58 23·19	15 55·11	+0·603	+ 0·103	− 1·83	− 4·6	19 2 28·24	− 19 26 39·6	24·19	48·9
666	19 13 5·10	− 19 14 38·7	58 29·13	15 56·73	+0·600	+ 0·115	− 1·82	− 5·1	19 11 51·08	− 19 7 41·5	47·06	51·6
667	...	...	...	...	...	...	...	...	...	...	...	...
668	19 19 24·64	− 18 56 6·4	58 31·97	15 57·50	+0·599	+ 0·119	− 1·81	− 5·4	19 16 4·89	− 18 29 27·7	0·90	38·0
669	11 42 13·05	− 3 30 42·1	54 12·70	14 46·82	+0·458	− 0·184	− 1·40	+ 8·4	11 41 35·99	− 3 11 25·8	33·76	9·3
670	11 43 40·34	− 3 39 28·9	54 12·71	14 46·82	+0·458	− 0·184	− 1·40	+ 8·4	11 42 43·28	− 3 8 49·4	41·05	33·0
671	12 26 31·54	− 7 50 57·9	54 18·78	14 48·48	+0·467	− 0·176	− 1·42	+ 8·0	12 26 19·85	− 7 36 37·4	17·33	20·1
672	14 6 57·44	− 16 4 19·8	55 6·20	15 1·40	+0·511	− 0·137	− 1·55	+ 6·2	14 5 25·96	− 15 49 62·7	22·70	46·8
673	57·45	19·9	...	...	...	...	...	...	...	...	...	...
674	...	...	...	...	...	...	...	...	...	...	...	...
675	17 33 13·21	− 22 7 10·1	57 49·13	15 45·83	+0·609	+ 0·022	− 1·86	− 1·0	17 37 30·65	− 21 38 3·0	26·21	4·5
676	13·22	...	...	...	...	...	...	...	...	...	...	...
677	15 26 24·36	− 20 5 57·9	55 39·56	15 10·50	+0·546	− 0·085	− 1·67	+ 3·9	15 25 60·83	− 19 49 30·28	57·26	20·0
678	24·33	57·8	...	...	...	...	...	...	...	...	...	...
679	15 26 25·54	− 20 6 0·6	55 39·57	15 10·50	+0·546	− 0·085	− 1·67	+ 3·9	15 25 61·65	− 19 49 32·3	58·08	22·1
680	...	...	...	...	...	...	...	...	...	...	...	...
681	18 3 22·10	− 21 33 0·3	58 1·96	15 49·32	+0·608	+ 0·051	− 1·84	− 2·3	18 7 51·42	− 21 5 1·3	46·97	6·2
682	19 7 50·29	− 19 27 1·5	59 0·42	16 5·27	+0·612	+ 0·109	− 1·87	− 5·0	19 11 51·61	− 19 7 39·6	47·06	51·6
683	50·30	...	...	...	...	...	...	...	...	...	...	...
684	50·31	...	...	...	...	...	...	...	...	...	...	...
685	19 8 30·57	− 19 25 13·6	59 0·99	16 5·42	+0·612	+ 0·109	− 1·87	− 5·0	19 12 24·61	− 19 2 22·7	20·07	34·7
686	30·60	13·5	...	...	...	...	...	...	...	...	...	...
687	19 9 15·69	− 19 23 12·0	59 1·65	16 5·60	+0·612	+ 0·111	− 1·87	− 5·0	19 12 43·85	− 18 52 26·5	39·31	38·6
688	0 18 41·08	+ 6 49 27·4	60 25·47	16 28·45	+0·578	+ 0·221	− 1·77	− 10·0	0 15 30·98	+ 7 38 29·0	27·08	5·6
689	3 56 33·24	+ 21 0 6·1	57 56·59	15 47·86	+0·599	+ 0·066	− 1·82	− 3·0	3 58 50·19	+ 21 48 37·4	46·91	31·6
690	12 44 34·39	− 9 6 51·0	54 0·16	14 43·39	+0·468	− 0·168	− 1·43	+ 7·7	12 42 50·78	− 8 37 30·7	48·68	17·4
691	12 44 38·03	− 9 7 10·6	54 0·16	14 43·39	+0·468	− 0·168	− 1·43	+ 7·7	12 42 52·02	− 8 35 66·8	49·92	53·5
692	12 45 49·77	− 9 13 36·5	54 0·32	14 43·44	+0·469	− 0·168	− 1·43	+ 7·6	12 43 51·15	− 8 40 39·4	49·05	26·1
693	49·76	36·4	...	...	...	...	...	...	...	...	...	...
694	14 17 36·76	− 16 19 6·4	54 27·56	14 50·87	+0·502	− 0·127	− 1·53	+ 5·8	14 16 8·47	− 15 47 55·4	5·89	43·0
695	15 59 33·79	− 20 55 34·5	55 31·27	15 8·23	+0·550	− 0·058	− 1·68	+ 2·6	15 59 7·43	− 20 37 37·4	4·05	30·7
696	16 1 24·34	− 20 58 28·3	55 32·71	15 8·63	+0·551	− 0·056	− 1·68	+ 2·6	16 0 5·90	− 20 52 58·0	2·51	51·3
697	16 3 6·47	− 21 1 4·7	55 34·04	15 8·99	+0·551	− 0·056	− 1·68	+ 2·5	16 1 37·60	− 20 40 28·6	34·21	22·1
698	...	...	...	...	...	...	...	...	...	...	...	...
699	16 3 11·74	− 21 1 12·7	55 34·11	15 9·01	+0·551	− 0·056	− 1·68	+ 2·5	16 1 35·72	− 20 35 61·3	32·35	54·8
700	...	...	...	...	...	...	...	...	...	...	...	...

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Cape Sid. Time.	G.M.T.	Remarks.
	1900.						h m s	h m s	
701	Sept. 1	ω^2 Scorpii.....	4·6	D.D.	7 inch	I.	19 24 0·9	7 28 5·9	*g*, yellow (4).
702	2	Bradley 2162	6·3	D.D.	7 inch	I.	21 44 43·9	9 44 29·9	*g*.
703	2	,,	...	D.D.	10 inch	G.J.	43·6	29·6	
704	2	,,	...	D.D.	6 inch	H.	43·5	29·5	Hazy.
705	4	Lalande 35497	6·1	D.D.	6 inch	H.	23 42 48·2	11 34 23·1	Very bad definition.
706	4	,,	...	D.D.	10 inch	G.J.	48·0	22·9	p.
707	4	,,	...	D.D.	7 inch	I.	48·0	22·9	g.
708	13	Piazzi III. 128.....	6·1	R.D.	7 inch	I.	23 55 49·4	11 11 59·0	fr.
709	13	,,	...	R.D.	10 inch	G.J.	50·0	59·6	Late.
710	28	λ Libræ.....	4·9	D.D.	7 inch	H.	21 19 59·8	7 37 36·3	g.
711	28	,,	...	D.D.	Heliom.	V.L.	59·4	35·9	i.
712	Oct. 26	O.A. 15693	9·2	D.D.	7 inch	I.	21 56 9·4	6 23 34·6	g.
713	Nov. 2	Lalande 44930.....	7·3	D.D.	7 inch	I.	3 41 9·8	11 40 7·1	fr, gl.
714	13	*h* Leonis.....	5·2	R.D.	7 inch	I.	5 45 30·3	13 0 52·2	g.
715	26	O.A. 20061.....	8·2	D.D.	7 inch	I.	23 51 12·4	6 16 25·5	*g*.
716	26	O.A. 20089.....	7·6	D.D.	7 inch	I.	0 51 5·2	7 16 8·5	*g*, deep yellow.
717	26	,,	...	D.D.	18 inch	L.	5·1	8·4	
718	26	Lalande 37969.....	7·8	D.D.	18 inch	L.	1 29 5·3	7 54 2·4	
719	26	,,	...	D.D.	7 inch	I.	5·6	2·7	*g*.
720	26	,,	...	D.D.	6 inch	H.	4·7	1·8	
721	26	*g* Sagittarii.....	5·1	D.D.	6 inch	H.	1 34 33·5	7 59 29·7	g.
722	26	,,	...	D.D.	18 inch	L.	33·4	29·6	
723	26	,,	...	D.D.	Heliom.	V.L.	33·6	29·8	
724	26	,,	...	D.D.	7 inch	I.	33·8	30·0	*g*.
725	Dec. 5	67 Tauri.....	5·4	D.D.	7 inch	I.	4 22 47·1	10 11 52·5	*g*, 10^s from terminator. Note.
726	9	Lalande 16224.....	6·6	R.D.	7 inch	I.	4 39 42·7	10 13 1·7	g.
727	9	,,	...	R.D.	6 inch	H.	43·3	2·3	p, very bad definition.
728	26	B.D. -4° 5662...	8·3	D.D.	7 inch	I.	2 31 0·2	6 57 49·8	*g*.
729	26	W.B. XXII. 301...	8·0	D.D.	7 inch	I.	2 49 51·8	7 16 38·3	*g*.
730	27	Piazzi XXIII. 21...	7·7	D.D.	7 inch	I.	3 11 6·9	7 33 54·0	*g*.
731	28	Lalande 47328.....	8·0	D.D.	7 inch	I.	3 12 32·2	7 31 23·2	*g*.
732	29	Piazzi 0. 255.....	8·5	D.D.	7 inch	I.	2 13 3·4	6 28 8·2	g, gl.
733	30	Lalande 3635.....	8·2	D.D.	7 inch	I.	3 33 41·7	7 44 37·4	fr, gl.
	1901.								
734	Jan. 26	W.B. I. 653	8·8	D.D.	7 inch	I.	4 39 18·8	7 3 54·2	g, at N. point.
735	28	Piazzi III. 128.....	6·1	D.D.	7 inch	I.	7 15 31·4	9 31 49·4	*g*, faded 2^s or 3^s earlier.
736	Feb. 11	41 Libræ.....	5·3	R.D.	6 inch	H.	10 27 34·5	11 48 18·3	p.
737	15	ρ Sagittarii.....	4·0	R.D.	6 inch	H.	13 51 34·8	14 56 1·5	
738	15	,,	...	R.D.	7 inch	I.	34·9	1·6	*g*.
739	25	Lalande 8306	7·5	D.D.	7 inch	I.	7 13 14·2	7 39 27·1	*g*.
740	25	Piazzi IV. 82.....	5·8	D.D.	7 inch	I.	8 11 10·0	8 37 13·4	*g*, gl.
741	26	o Tauri.....	4·8	D.D.	7 inch	I.	8 37 21·1	8 59 24·3	*g*, in 2 parts, 0^s·2. Note.
742	Mar. 10	28 Libræ.....	6·2	R.D.	7 inch	I.	11 4 4·0	10 38 32·3	*g*, dark limb seen.
743	25	W.B. (2) IV. 1367	9·0	D.D.	7 inch	I.	8 36 11·4	7 12 5·3	*g*, gl.
744	25	,,	...	D.D.	6 inch	H.	11·2	5·1	
745	25	105 Tauri.....	6·0	D.D.	6 inch	H.	8 40 46·5	7 16 39·7	
746	25	,,	...	D.D.	7 inch	I.	46·1	39·3	*g*, nearly i.
747	25	W.B. (2) IV. 1380	9·2	D.D.	6 inch	H.	9 7 15·0	7 43 3·9	
748	26	Lalande 11468.....	8·3	D.D.	7 inch	I.	7 26 22·5	5 58 32·0	*g*.
749	26	Lalande 11488.....	8·9	D.D.	7 inch	I.	8 3 26·0	6 35 29·4	Near N. point, tangential. Note.
750	26	Lalande 11561.....	7·9	D.D.	7 inch	I.	9 3 14·6	7 35 8·2	*g*.

725. H, at 6 inch, 0^s·3 later, noted valueless.
741. Certainly double and components nearly equal.
749. Very fine observation. Disappeared 1^s·5 earlier and reappeared for a moment.

Digitized by Google

No.	Moon's Tabular,				Var. in 1s.		Newcomb's Corr.		Star's Apparent,		Sec. of Mean,	
	R.A.	Dec.	Par.	S.-Diam.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.
	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
701	...	...	...	...	...	...	...	...	...	...	...	...
702	17 2 24·20	− 21 51 11·7	56 24·31	15 22·69	+0·575	− 0·006	− 1·75	+ 0·3	17 0 17·24	− 21 25 34·9	13·49	33·1
703	24·19	...	...	...	...	...	...	...	...	...	...	...
704	...	...	...	...	...	...	...	...	...	...	...	...
705	18 59 46·83	− 19 36 41·0	58 19·46	15 54·09	+0·598	+ 0·099	− 1·82	− 4·4	18 57 15·41	− 19 23 13·2	11·13	23·5
706	...	...	...	...	...	...	...	...	...	...	...	...
707	46·82	...	...	...	...	...	...	...	...	...	...	...
708	3 36 43·15	+ 20 7 20·4	59 0·95	16 5·41	+0·616	+ 0·087	− 1·89	− 3·9	3 38 43·16	+ 20 36 56·1	38·99	45·4
709	43·17	20·5	...	...	...	...	...	...	...	...	...	...
710	15 49 50·90	− 20 24 59·3	54 58·82	14 59·40	+0·539	− 0·064	− 1·64	+ 2·9	15 47 34·49	− 19 52 11·5	31·65	5·5
711	50·89	...	...	...	...	...	...	...	...	...	...	...
712	16 27 17·36	− 21 8 13·1	55 14·08	15 3·56	+0·551	− 0·035	− 1·69	+ 1·6	16 24 61·04	− 20 36 19·3	58·28	16·9
713	22 56 1·16	− 1 16 25·3	60 2·01	16 22·05	+0·565	+ 0·222	− 1·74	− 10·1	22 53 48·87	− 0 50 37·9	44·76	66·5
714	9 24 49·18	+ 9 45 18·0	55 9·63	15 2·34	+0·489	− 0·168	− 1·51	+ 7·7	9 26 39·72	+ 10 9 5·2	36·01	24·5
715	19 50 52·58	− 16 36 18·4	57 16·44	15 36·91	+0·560	+ 0·131	− 1·72	− 6·0	19 48 62·73	− 16 10 12·8	59·59	27·0
716	19 53 6·31	− 16 28 25·0	57 17·72	15 37·26	+0·560	+ 0·132	− 1·71	− 6·1	19 50 56·57	− 15 57 54·8	53·43	69·2
717	...	...	...	...	...	...	...	...	...	...	...	...
718	19 54 31·15	− 16 23 21·8	57 18·54	15 37·49	+0·559	+ 0·134	− 1·71	− 6·1	19 51 57·68	− 15 43 2·0	54·54	16·5
719	31·16	...	...	...	...	...	...	...	...	...	...	...
720	31·13	21·9	...	...	...	...	...	...	...	...	...	...
721	19 54 43·36	− 16 22 37·9	57 18·66	15 37·52	+0·559	+ 0·134	− 1·71	− 6·1	19 52 19·93	− 15 45 10·3	16·78	24·7
722	...	...	...	...	...	...	...	...	...	...	...	...
723	...	...	...	...	...	...	...	...	...	...	...	...
724	43·37	...	...	...	...	...	...	...	...	...	...	...
725	4 18 45·24	+ 20 58 35·8	59 38·61	16 15·67	+0·643	+ 0·048	− 1·97	− 2·2	4 19 33·36	+ 21 58 26·2	27·52	16·9
726	8 11 9·60	+ 15 21 59·9	56 46·28	15 28·69	+0·544	− 0·141	− 1·68	+ 6·5	8 12 40·91	+ 15 58 58·4	35·78	78·3
727	9·62	59·8	...	...	...	...	...	...	...	...	...	...
728	22 18 53·49	− 4 55 46·7	58 43·57	16 0·67	+0·544	+ 0·207	− 1·68	− 9·5	22 16 54·40	− 4 17 57·8	51·08	81·3
729	22 19 34·45	− 4 51 53·3	58 43·79	16 0·73	+0·544	+ 0·207	− 1·68	− 9·5	22 17 29·56	− 4 14 4·9	26·24	28·5
730	23 12 23·39	+ 0 15 47·4	58 58·37	16 4·70	+0·544	+ 0·213	− 1·68	− 9·8	23 10 35·63	+ 0 45 77·0	32·07	51·1
731	0 4 50·85	+ 5 20 18·7	59 8·83	16 7·56	+0·552	+ 0·208	− 1·70	− 9·5	0 3 21·33	+ 6 3 63·6	17·43	36·5
732	0 56 6·32	+ 9 57 32·1	59 15·09	16 9·26	+0·566	+ 0·193	− 1·75	− 8·9	0 56 4·37	+ 10 38 59·2	0·06	32·5
733	1 54 21·63	+ 14 28 24·6	59 17·02	16 9·79	+0·587	+ 0·162	− 1·81	− 7·5	1 53 17·83	+ 15 26 59·2	13·02	34·8
734	1 40 37·43	+ 13 16 8·1	59 15·34	16 9·33	+0·580	+ 0·171	− 1·80	− 7·9	1 38 24·82	+ 14 12 19·1	23·71	14·0
735	3 40 42·60	+ 19 45 59·2	58 36·15	15 58·64	+0·608	+ 0·080	− 1·87	− 3·8	3 38 44·38	+ 20 36 59·4	42·48	57·0
736	15 31 3·58	− 19 16 42·3	54 45·96	14 55·89	+0·526	− 0·077	− 1·63	+ 3·6	15 33 13·98	− 18 58 34·4	12·51	33·3
737	19 13 44·32	− 18 29 4·1	57 45·82	15 44·93	+0·583	+ 0·102	− 1·82	− 4·8	19 15 56·31	− 18 1 56·8	55·89	61·2
738	...	...	...	...	...	...	...	...	...	...	...	...
739	4 21 44·23	+ 20 34 2·3	58 31·54	15 57·39	+0·612	+ 0·045	− 1·89	− 2·1	4 20 28·01	+ 21 14 44·9	26·30	45·3
740	4 24 5·67	+ 20 36 37·2	58 30·03	15 56·98	+0·612	+ 0·043	− 1·89	− 2·0	4 22 9·80	+ 21 23 55·9	8·09	56·3
741	5 23 21·32	+ 21 1 38·0	57 51·80	15 46·56	+0·602	− 0·009	− 1·86	+ 0·4	5 21 43·37	+ 21 51 6·1	41·32	9·3
742	15 13 24·11	− 18 18 23·6	54 18·46	14 48·39	+0·514	− 0·088	− 1·59	+ 4·1	15 15 19·12	− 17 47 62·4	16·75	56·8
743	5 3 39·47	+ 20 47 9·9	58 49·33	16 2·24	+0·621	+ 0·009	− 1·92	− 0·5	5 1 54·30	+ 21 33 46·6	52·87	49·6
744	39·46	...	...	...	...	...	...	...	...	...	...	...
745	5 3 50·83	+ 20 47 12·2	58 49·17	16 2·20	+0·621	+ 0·009	− 1·92	− 0·5	5 2 1·68	+ 21 34 22·8	0·25	25·8
746	50·81	...	...	...	...	...	...	...	...	...	...	...
747	5 4 56·41	+ 20 47 24·4	58 48·24	16 1·94	+0·621	+ 0·007	− 1·92	− 0·4	5 2 19·81	+ 21 40 57·4	18·38	60·4
748	5 59 23·05	+ 20 24 42·4	58 1·52	15 49·21	+0·601	− 0·040	− 1·86	+ 1·8	5 58 44·28	+ 21 23 53·3	42·57	58·7
749	6 0 51·86	+ 20 23 11·5	58 0·19	15 48·84	+0·600	− 0·042	− 1·86	+ 1·8	5 59 22·94	+ 21 23 30·5	21·23	36·0
750	6 3 14·97	+ 20 20 39·0	57 58·13	15 48·28	+0·599	− 0·044	− 1·86	+ 1·9	6 1 25·17	+ 20 49 45·3	23·46	51·1

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Cape Sid. Time.	G.M.T.	Remarks.
	1901.						h m s	h m s	
751	Mar. 28	5 Cancri.....	5·9	D.D.	7 inch	B.C.	11 16 55·0	9 40 34·9	
752	28	,,	...	D.D.	6 inch	H.	54·3	34·2	
753	Apr. 4	α Virginis.....	1·2	D.B.	6 inch	H.	7 52 35·2	5 49 17·2	
754	4	,,	...	D.B.	10 inch	B.C.	35·2	17·2	
755	4	,,	...	R.D.	10 inch	B.C.	8 55 10·9	6 51 42·7	
756	4	,,	...	R.D.	6 inch	H.	11·2	43·0	
757	4	,,	...	R.D.	18 inch	L.	11·0	42·8	
758	4	,,	...	R.D.	7 inch	I.	10·3	42·1	i, steely-blue.
759*	7	47 Libræ.....	5·8	R.D.	6 inch	H.	11 43 20·8	9 27 37·3	[S.T. increased 5m.]
760	7	β Scorpii (*pr.*).....	3·0	D.B.	6 inch	H.	17 41 50·9	15 25 8·7	i.
761	7	,,	...	R.D.	6 inch	H.	19 9 37·8	16 52 41·2	Daylight.
762	7	β Scorpii (*seq.*).....	5·2	R.D.	6 inch	H.	19 9 54·6	16 52 57·9	Daylight.
763	10	C.G.A. 25557.....	6·6	R.D.	6 inch	H.	18 39 35·7	16 10 56·3	g.
764	10	,,	...	R.D.	7 inch	I.	36·2	56·8	*g*, orange (5).
765†	21	W.B. (2) IV. 678..	8·4	D.D.	7 inch	I.	8 24 31·9	5 14 18·3	g.
766	24	*f* Geminorum.....	5·3	D.D.	7 inch	I.	9 12 24·8	5 50 15·6	*g*, red (6).
767	May 5	Mayer 671.....	6·6	R.D.	7 inch	I.	19 10 13·0	15 3 10·9	*g*.
768	20	B.D. + 20° 1337..	8·8	D.D.	7 inch	I.	9 51 1·2	4 46 32·0	*g*.
769	21	B.D. + 18° 1553..	9·0	D.D.	7 inch	I.	10 53 13·2	5 44 37·9	fr.
770	24	W.B. IX. 1028....	9·0	D.D.	7 inch	I.	11 26 23·4	6 5 55·0	*g*, gl.
771	June 5	*g* Sagittarii	5·1	R.D.	7 inch	I.	21 0 13·2	14 50 59·8	g.
772	5	,,	...	R.D.	6 inch	H.	13·0	59·6	*g*.
773	12	19 Arietis	5·8	R.D.	6 inch	H.	21 29 45·0	14 52 55·4	g.
774	12	,,	...	R.D.	7 inch	I.	45·2	55·6	*g*.
775*	21	Lalande 20205.....	8·5	D.D.	7 inch	I.	13 30 45·6	6 19 51·3	*g*. [S.T. increased 1m.]
776	22	Lalande 21441.....	8·7	D.D.	7 inch	I.	13 14 4·6	5 59 17·1	*g*.
777	22	Lalande 21446.....	8·5	D.D.	7 inch	I.	13 29 38·0	6 14 48·0	*g*.
778	22	B.D. + 0° 2760...	9·5	D.D.	7 inch	I.	13 56 38·8	6 41 44·3	p.
779	22	p^6 Leonis.....	5·3	D.D.	7 inch	I.	14 41 58·7	7 26 56·8	*g*.
780	22	,,	...	D.D.	6 inch	II.	59·3	57·4	
781	25	α Virginis.....	1·2	D.D.	18 inch	L.	8 56 45·1	1 30 52·0	
782	25	,,	...	D.D.	10 inch	C.	45·0	51·9	
783	25	,,	...	D.D.	6 inch	B.C.	45·0	51·9	
784	25	,,	...	D.D.	7 inch	I.	44·7	51·6	*g*, not quite i.
785	25	,,	...	R.B.	8 inch	L.	10 5 47·6	2 39 43·2	*g*.
786	25	,,	...	R.B.	10 inch	C.	47·0	42·6	*g*.
787	25	,,	...	R.B.	6 inch	B.C.	47·9	43·5	*g*.
788	25	,,	...	R.B.	7 inch	I.	47·4	43·0	*g*.
789	July 10	ρ Arietis.....	5·6	R.D.	7 inch	I.	0 47 12·1	16 19 44·7	*g*.
790	21	Lalande 23333.....	7·8	D.D.	7 inch	I.	15 22 51·5	6 13 41·5	*g*
791	Aug. 9	ζ Tauri.....	3·0	R.D.	7 inch	I.	0 44 10·2	14 18 46·0	*g*.
792	18	Lalande 24119.....	6·8	D.D.	7 inch	I.	16 16 52·9	5 17 28·6	*g*.
793	18	Lalande 24204.....	7·1	D.D.	7 inch	I.	18 9 4·1	7 9 21·4	g, definition very bad. Note.
794	19	Piazzi XIII. 183...	8·0	D.D.	7 inch	I.	17 4 6·3	6 0 38·4	*g*.
795	19	86 Virginis.....	5·6	D.D.	7 inch	I.	17 16 43·3	6 13 13·3	*g*.
796	22	Piazzi XVI. 3.....	7·9	D.D.	7 inch	I.	16 28 34·7	5 13 24·9	fr, c, not seen double. Note.
797†	22	ν Scorpii.....	5·9	D.D.	7 inch	I.	16 29 36·7	5 14 26·7	*g*, not seen double, so uncertain
798†	22	,,	4·4	D.D.	7 inch	I.	37·2	27·2	which disappeared first.
799	24	Lalande 32861.....	8·0	D.D.	7 inch	I.	18 32 11·8	7 8 49·9	*g*, dark limb visible, but d.
800	27	Mayer 885.....	6·4	D.D.	7 inch	I.	2 11 2·9	14 34 38·1	*g*, flickered in 2 phases almost i.

765. Identified by observer as W.B. (2) IV. 727.
793. Half of the light disappeared 3s or 4s earlier.
796. No doubt brighter star observed.
797–8. It has been assumed that the N. star disappeared first.

Digitized by Google

No.	Moon's Tabular,				Var. in 1s.		Newcomb's Corr.		Star's Apparent,		Sec. of Mean,	
	R.A.	Dec.	Par.	S.-Diam.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.
	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
751	7 57 27·38	+ 15 58 9·8	56 22·39	15 22·18	+0·539	− 0·125	− 1·67	+ 5·8	7 55 53·99	+ 16 43 29·8	51·78	41·7
752	27·35	9·9	...	...	...	...	...	...	..	...	...	...
753	13 16 15·18	− 10 58 4·2	53 59·02	14 43·08	+0·479	− 0·150	− 1·49	+ 7·0	13 19 61·62	− 10 38 56·3	58·60	40·5
754	...	...	...	...	...	...	...	...	...	...	...	...
755	13 18 14·89	− 11 7 24·9	53 58·89	14 43·05	+0·480	− 0·149	− 1·49	+ 6·9	13 19 61·62	− 10 38 56·3	58·60	40·5
756	14·90	...	...	...	...	...	...	...	...	...	...	...
757	14·89	...	...	...	...	...	...	...	...	...	...	...
758	14·87	24·8	...	...	...	...	...	...	...	...	...	...
759	15 47 34·87	− 19 24 2·4	54 18·78	14 48·47	+0·523	− 0·065	− 1·63	+ 3·0	15 49 19·91	− 19 5 32·0	16·96	26·8
760	16 0 5·34	− 19 45 16·2	54 23·10	14 49·66	+0·526	− 0·056	− 1·64	+ 2·6	15 59 43·67	− 19 32 8·9	40·74	4·6
761	16 3 9·83	− 19 49 58·7	54 24·23	14 49·97	+0·527	− 0·052	− 1·64	+ 2·5	15 59 43·67	− 19 32 8·9	40·74	4·6
762	16 3 10·42	− 19 49 59·6	54 24·24	14 49·97	+0·527	− 0·052	− 1·64	+ 2·5	15 59 44·10	− 19 31 56·7	41·17	52·4
763	18 37 46·29	− 19 23 40·5	55 54·86	15 14·68	+0·551	+ 0·067	− 1·72	− 3·2	18 37 7·34	− 19 22 39·1	5·14	44·6
764	46·31	...	...	...	...	...	...	...	...	...	...	...
765	4 36 5·47	+ 20 25 34·7	60 8·95	16 23·95	+0·649	+ 0·034	− 2·03	− 1·6	4 33 46·98	+ 21 19 18·7	46·04	21·9*
766	7 34 11·41	+ 17 4 7·2	57 23·19	15 38·76	+0·565	− 0·113	− 1·77	+ 5·3	7 33 47·25	+ 17 53 50·1	45·60	60·2
767	16 37 52·56	− 20 25 45·3	54 35·48	14 53·03	+0·537	− 0·026	− 1·67	+ 1·3	16 34 47·68	− 20 12 58·6	44·22	56·4
768	6 12 1·50	+ 19 59 41·0	59 27·83	16 12·63	+0·631	− 0·055	− 1·98	+ 2·6	6 10 6·42	+ 20 32 16·7	5·37	23·5
769	7 13 24·40	+ 18 0 33·6	58 31·29	15 57·32	+0·596	− 0·103	− 1·87	+ 4·8	7 11 32·25	+ 18 32 7·6	31·03	16·5
770	9 50 38·89	+ 7 27 52·0	55 51·60	15 13·78	+0·498	− 0·173	− 1·56	+ 8·1	9 50 20·84	+ 8 8 34·8	19·00	49·9
771	19 54 24·84	− 16 0 3·1	56 22·74	15 22·27	+0·543	+ 0·123	− 1·69	− 5·7	19 52 23·52	− 15 45 1·7	20·18	15·3
772	24·83	...	...	...	...	...	...	...	...	...	...	...
773	2 5 4·13	+ 14 26 16·2	60 14·30	16 25·40	+0·610	+ 0·157	− 1·92	− 7·4	2 7 40·72	+ 14 48 60·4	39·22	56·9
774	4·14	...	...	...	...	...	...	...	...	..	...	...
775	10 22 24·03	+ 4 44 37·5	55 54·91	15 14·69	+0·495	− 0·180	− 1·55	+ 8·4	10 20 26·80	+ 5 4 11·3	25·10	25·8
776	11 8 25·59	+ 0 27 43·1	55 15·87	15 4·04	+0·479	− 0·180	− 1·51	+ 8·5	11 7 43·11	+ 0 52 57·5	41·15	73·1
777	11 8 55·35	+ 0 24 55·2	55 15·47	15 3·93	+0·479	− 0·180	− 1·51	+ 8·5	11 7 49·05	+ 0 45 18·3	47·09	33·9
778	11 9 46·98	+ 0 20 3·6	55 14·81	15 3·75	+0·479	− 0·180	− 1·50	+ 8·4	11 8 15·31	+ 0 38 35·9	13·36	51·5
779	11 11 13·60	+ 0 11 54·6	55 13·71	15 3·45	+0·479	− 0·180	− 1·50	+ 8·4	11 8 43·49	+ 0 27 53·4	41·52	69·1
780	13·62	54·5	...	...	...	...	...	...	...	...	...	...
781	13 16 32·92	− 10 54 39·3	54 14·12	14 47·21	+0·479	− 0·149	− 1·50	+ 7·1	13 19 61·45	− 10 38 55·6	58·60	40·5
782	...	...	...	...	...	...	...	...	...	...	...	...
783	...	...	...	...	...	...	...	...	...	...	...	...
784	32·91	...	...	...	...	...	...	...	...	...	...	...
785	13 18 44·97	− 11 4 54·7	54 13·75	14 47·10	+0·480	− 0·148	− 1·50	+ 7·0	13 19 61·45	− 10 38 55·6	58·60	40·5
786	44·95	54·6	...	...	...	...	...	...	...	...	...	...
787	44·98	54·8	...	...	...	...	...	...	...	...	...	...
788	44·96	54·7	...	...	...	...	...	...	...	...	...	...
789	2 50 16·34	+ 16 54 2·6	59 35·73	16 14·89	+0·611	+ 0·124	− 1·91	− 5·7	2 50 52·91	+ 17 37 46·7	50·74	42·4
790	12 24 59·41	− 6 23 2·6	54 44·13	14 55·39	+0·477	− 0·168	− 1·50	+ 7·9	12 23 48·00	− 5 58 72·6	45·85	58·5
791	5 29 35·91	+ 20 24 49·0	58 45·00	16 1·06	+0·620	− 0·011	− 1·95	+ 0·5	5 31 45·99	+ 21 4 52·3	43·66	56·2
792	12 53 55·91	− 8 37 34·4	54 36·47	14 53·30	+0·482	− 0·159	− 1·52	+ 7·5	12 52 11·93	− 8 22 42·6	9·88	30·7
793	12 57 31·51	− 8 55 18·6	54 34·92	14 52·88	+0·482	− 0·158	− 1·53	+ 7·5	12 55 22·40	− 8 33 68·3	20·33	56·4
794	13 41 47·91	− 12 19 30·6	54 20·24	14 48·88	+0·487	− 0·139	− 1·55	+ 6·7	13 40 23·05	− 11 53 28·4	20·70	17·6
795	13 42 12·45	− 12 21 15·6	54 20·15	14 48·85	+0·487	− 0·139	− 1·55	+ 6·6	13 40 42·03	− 11 55 56·3	39·69	45·5
796	16 5 33·75	− 19 24 39·1	54 29·97	14 51·53	+0·525	− 0·053	− 1·66	+ 2·4	16 6 16·61	− 19 11 38·5	13·25	35·3
797	16 5 35·91	− 19 24 42·4	54 29·99	14 51·53	+0·525	− 0·053	− 1·66	+ 2·4	16 6 17·75	− 19 12 12·7	14·39	9·5
798	16 5 35·92	− 19 24 42·4	54 29·99	14 51·53	+0·525	− 0·053	− 1·66	+ 2·4	16 6 17·75	− 19 12 13·4	14·39	10·2
799	17 53 5·39	− 20 5 24·3	55 28·86	15 7·59	+0·550	+ 0·028	− 1·74	− 1·3	17 53 14·98	− 20 3 3·9	11·03	10·3
800	20 49 59·99	− 12 31 26·4	57 56·21	15 47·76	+0·558	+ 0·158	− 1·76	− 7·4	20 47 44·94	− 11 56 30·2	40·73	52·7

765. Mean R.A. and Dec. from A.G.C.

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Cape Sid. Time.	G.M.T.	Remarks.
	1901.						h m s	h m s	
801	Aug. 30	κ Piscium.....	4·9	R.D.	6 inch	H.	22 10 30·8	10 22 57·7	
802	Sept. 19	Lalande 30506.....	8·5	D.D.	7 inch	I.	20 6 28·5	7 0 37·6	*g*.
803	19	O.A. 15985(*seq.*)...	9·4	D.D.	7 inch	I.	20 50 43·2	7 44 45·0	*g*.
804	19	B.D. − 19° 4435...	8·8	D.D.	7 inch	I.	21 15 27·1	8 9 24·9	*g*, grazing, all but i.
805	20	Lalande 32065.....	8·8	D.D.	7 inch	I.	19 16 10·5	6 6 31·9	*g*.
806	21	Mayer 748.....	5·7	D.D.	7 inch	I.	19 34 55·3	6 21 17·7	*g*, gl, nearly tangential.
807	21	Piazzi XVIII. 88...	7·5	D.D.	7 inch	I.	19 49 29·0	6 35 49·0	*g*.
808	21	B.D. − 19° 5041...	9·2	D.D.	7 inch	I.	19 58 49·1	6 45 7·6	*g*, gl.
809	21	O.A. 18330.....	8·3	D.D.	7 inch	I.	20 11 39·5	6 57 55·9	*g*, gl, $0^s·3$.
810	21	O.A. 18342.....	9·2	D.D.	7 inch	I.	20 15 50·5	7 2 6·2	fr.
811	21	B.D. − 19° 5056...	9·6	D.D.	7 inch	I.	20 36 37·4	7 22 49·7	p.
812	21	Piazzi XVIII. 95....	8·0	D.D.	7 inch	I.	20 40 5·6	7 26 17·3	*g*.
813	22	O.A. 19544.....	8·0	D.D.	7 inch	I.	21 44 50·2	8 26 55·4	*g*, gl.
814	25	30 Aquarii	5·6	D.D.	7 inch	C.	19 25 10·5	5 55 50·9	
815	25	,,	...	D.D.	18 inch	L.	10·7	51·1	
816	Oct. 15	O.A. 14755.....	9·1	D.D.	7 inch	I.	20 31 19·6	5 43 11·0	fr.
817	15	B.D. − 17° 4399..	9·0	D.D.	7 inch	I.	20 33 50·3	5 45 41·3	*g*.
818	17	B.D. − 19° 4612..	9·2	D.D.	7 inch	I.	21 21 35·9	6 25 27·3	*g*.
819	17	O.A. 16687.....	7·9†	D.D.	7 inch	I.	21 26 16·5	6 30 7·1	*g*.
820	18	B.D. − 19° 4907..	9·5	D.D.	7 inch	I.	21 28 22·7	6 28 17·1	g.
821	18	O.A. 17845	8·8	D.D.	7 inch	I.	21 28 49·4	6 28 43·7	g, gl.
822	18	B.D. − 19° 4910..	8·8	D.D.	7 inch	I.	21 31 44·9	6 31 38·7	fr.
823	18	B.D. − 19° 4909..	8·4	D.D.	7 inch	I.	21 34 35·1	6 34 28·5	*g*, gl.
824	18	O.A. 17880	8·1	D.D.	7 inch	I.	21 55 37·1	6 55 27·0	*g*.
825	18	O.A. 17892	7·7	D.D.	7 inch	I.	22 14 26·6	7 14 13·4	*g*.
826	18	B.D. − 19° 4921..	8·7	D.D.	7 inch	I.	22 18 9·2	7 17 55·4	g.
827	18	B.D. − 19° 4926..	9·0	D.D.	7 inch	I.	22 20 7·1	7 19 53·0	g.
828	18	Lalande 33525	7·2	D.D.	7 inch	I.	22 20 58·6	7 20 44·4	*g*.
829	18	O.A. 17887.....	8·7	D.D.	7 inch	I.	22 29 39·6	7 29 23·9	g.
830	18	O.A. 17916.....	8·9	D.D.	7 inch	I.	22 29 46·1	7 29 30·4	*g*.
831	18	B.D. − 19° 4939..	8·4	D.D.	7 inch	I.	22 58 27·9	7 58 7·5	*g*.
832	18	O.A. 17946.....	8·6	D.D.	7 inch	I.	23 0 46·7	8 0 25·9	*g*.
833	18	C.P.D. − 19° 6736	8·8	D.D.	7 inch	I.	23 10 57·7	8 10 35·3	g.
834	18	O.A. 17956.....	8·6	D.D.	7 inch	I.	23 11 23·9	8 11 1·4	*g*.
835	18	Lalande 33564	7·6	D.D.	7 inch	I.	23 16 0·7	8 15 37·4	*g*, gl.
836	18	O.A. 17970.....	8·5	D.D.	7 inch	I.	23 22 11·3	8 21 47·0	*g*.
837	19	B.D. − 17° 5468..	9·1	D.D.	7 inch	I.	22 37 20·7	7 33 7·9	*g*.
838	19	O.A. 19071.....	8·8	D.D.	7 inch	I.	22 48 36·8	7 44 22·1	*g*.
839	19	Lalande 35694.....	7·3	D.D.	7 inch	I.	23 2 15·2	7 57 58·3	*g*.
840	21	Mayer 885	6·4	D.D.	7 inch	I.	0 40 42·7	9 28 17·8	*g*, gl.
841	22	Lalande 42321	8·6	D.D.	7 inch	I.	0 3 5·9	8 46 51·3	g.
842	24	κ Piscium	4·9	D.D.	7 inch	C.	21 31 27·8	6 7 46·2	Bad definition, very rough.
843	24	,,	...	D.D.	18 inch	L.	27·8	46·2	?, $1^s±$.
844	29	Lalande 8705	5·8	R.D.	7 inch	I.	4 8 3·8	12 23 37·7	*g*, white.
845	Nov. 14	Lalande 32915.....	7·8	D.D.	7 inch	I.	23 23 15·6	6 36 41·6	*g*, gl.
846	16	O.A. 19868.....	9·1	D.D.	7 inch	I.	23 13 58·5	6 19 34·2	*g*, gl.
847	16	Mayer 820.....	5·5	D.D.	7 inch	I.	0 43 57·3	7 49 18·3	*g*, flickered, 2 nearly equal parts, almost i.
848	Dec. 15	B.D. − 10° 5619..	8·4	D.D.	7 inch	I.	1 51 32·7	7 2 41·2	g, not i.
849	16	Piazzi XXI. 350 ..	8·2	D.D.	7 inch	I.	1 30 33·0	6 37 49·0	*g*.
850	18	19 Piscium.....	5·4	D.D.	7 inch	I.	5 10 55·0	10 9 43·1	*g*, very red.

Digitized by Google

No.	Moon's Tabular,				Var. in 1s.		Newcomb's Corr.		Star's Apparent,		Sec. of Mean,	
	R.A.	Dec.	Par.	S.-diam.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.
	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
801	23 21 41·70	+ 0 21 22·9	59 38·61	16 15·67	+0·564	+ 0·208	− 1·79	− 9·8	23 21 55·55	+ 0 42 75·7	51·46	48·9
802	16 43 38·34	− 19 53 5·4	54 26·53	14 50·58	+0·528	− 0·025	− 1·67	+ 1·1	16 41 61·00	− 19 41 49·8	58·07	50·5
803	16 45 11·54	− 19 54 10·4	54 27·14	14 50·76	+0·528	− 0·024	− 1·67	+ 1·1	16 43 15·94	− 19 25 48·9	13·01	49·8
804	16 46 3·66	− 19 54 45·5	54 27·49	14 50·86	+0·528	− 0·024	− 1·67	+ 1·0	16 43 16·98	− 19 17 22·9	14·06	23·8*
805	17 32 49·61	− 20 2 43·3	54 50·49	14 57·13	+0·537	+ 0·011	− 1·69	− 0·6	17 32 19·90	− 19 54 47·6	16·53	52·4
806	18 25 11·12	− 19 16 57·4	55 25·44	15 6·65	+0·543	+ 0·051	− 1·71	− 2·5	18 24 26·28	− 18 47 21·0	22·68	30·6
807	18 25 42·65	− 19 16 12·3	55 25·86	15 6·76	+0·543	+ 0·052	− 1·71	− 2·5	18 25 34·15	− 18 58 8·0	30·54	17·7
808	18 26 2·87	− 19 15 43·3	55 26·11	15 6·83	+0·543	+ 0·052	− 1·71	− 2·5	18 25 47·00	− 19 3 39·5	43·37	49·0
809	18 26 30·67	− 19 15 3·1	55 26·46	15 6·93	+0·543	+ 0·052	− 1·71	− 2·5	18 25 51·30	− 19 9 14·9	47·69	24·6
810	18 26 39·73	− 19 14 49·9	55 26·57	15 6·96	+0·543	+ 0·052	− 1·71	− 2·5	18 26 12·54	− 18 59 2·0	8·93	11·8
811	18 27 24·74	− 19 13 44·2	55 27·13	15 7·11	+0·543	+ 0·052	− 1·71	− 2·6	18 26 38·34	− 19 2 35·6	34·73	45·4
812	18 27 32·26	− 19 13 33·2	55 27·24	15 7·14	+0·543	+ 0·052	− 1·71	− 2·6	18 26 43·24	− 19 2 27·0	39·62	36·8
813	19 22 4·53	− 17 22 47·3	56 13·11	15 19·64	+0·547	+ 0·093	− 1·73	− 4·4	19 21 8·20	− 16 58 35·0	4·41	50·0
814	21 55 9·48	− 7 20 16·6	58 47·01	16 1·60	+0·556	+ 0·187	− 1·77	− 8·8	21 58 8·14	− 6 59 36·5	4·03	63·2
815	9·49	...	...	...	...	...	...	...	...	...	...	...
816	15 36 54·83	− 18 11 53·7	53 59·12	14 43·11	+0·513	− 0·071	− 1·62	+ 3·4	15 34 45·76	− 17 54 12·9	43·37	10·2
817	15 36 59·97	− 18 12 4·4	53 59·13	14 43·11	+0·513	− 0·071	− 1·62	+ 3·4	15 34 56·78	− 17 43 53·6	54·39	50·9
818	17 18 28·49	− 19 56 45·2	54 20·96	14 49·07	+0·528	0·000	− 1·66	0·0	17 16 23·17	− 19 25 6·4	20·35	10·7
819	17 18 38·34	− 19 56 44·8	54 21·02	14 49·08	+0·528	+ 0·002	− 1·66	0·0	17 16 46·73	− 19 30 53·0	43·91	57·2
820	18 9 29·28	− 19 27 58·2	54 44·69	14 55·54	+0·532	+ 0·038	− 1·67	− 1·8	18 7 55·68	− 19 15 56·8	52·64	65·1
821	18 9 30·22	− 19 27 57·2	54 44·71	14 55·54	+0·532	+ 0·038	− 1·67	− 1·8	18 7 47·57	− 19 18 54·2	44·53	62·4
822	18 9 36·43	− 19 27 50·4	54 44·76	14 55·55	+0·532	+ 0·040	− 1·67	− 1·8	18 8 8·59	− 19 8 25·6	5·56	33·9
823	18 9 42·45	− 19 27 43·7	54 44·82	14 55·57	+0·532	+ 0·040	− 1·67	− 1·8	18 8 4·55	− 19 0 48·7	1·52	57·1
824	18 10 27·08	− 19 26 54·2	54 45·23	14 55·69	+0·532	+ 0·040	− 1·67	− 1·8	18 8 47·38	− 19 4 55·5	44·34	63·9
825	18 11 7·03	− 19 26 9·3	54 45·61	14 55·78	+0·532	+ 0·040	− 1·67	− 1·8	18 9 13·50	− 18 58 13·5	10·47	21·9
826	18 11 14·90	− 19 26 0·4	54 45·67	14 55·81	+0·532	+ 0·040	− 1·67	− 1·9	18 9 5·80	− 19 15 17·2	2·76	25·5
827	18 11 19·07	− 19 25 55·6	54 45·72	14 55·82	+0·532	+ 0·040	− 1·67	− 1·9	18 9 26·27	− 19 8 44·6	23·23	53·0
828	18 11 20·90	− 19 25 53·6	54 45·73	14 55·82	+0·532	+ 0·040	− 1·67	− 1·9	18 9 29·91	− 19 1 12·8	26·87	21·3
829	18 11 39·32	− 19 25 32·6	54 45·89	14 55·87	+0·532	+ 0·040	− 1·67	− 1·9	18 8 58·34	− 18 48 34·0	55·31	42·5
830	18 11 39·55	− 19 25 32·3	54 45·89	14 55·87	+0·532	+ 0·040	− 1·67	− 1·9	18 9 41·24	− 18 57 10·7	38·20	19·2
831	18 12 40·45	− 19 24 22·1	54 46·47	14 56·03	+0·532	+ 0·041	− 1·67	− 1·9	18 10 38·87	− 19 0 10·4	35·83	18·9
832	18 12 45·36	− 19 24 16·3	54 46·52	14 56·05	+0·532	+ 0·041	− 1·67	− 1·9	18 10 25·69	− 18 49 43·5	22·66	52·1
833	18 13 6·98	− 19 23 51·1	54 46·72	14 56·10	+0·532	+ 0·041	− 1·67	− 1·9	18 10 62·36	− 18 59 52·3	59·32	60·9
834	18 13 7·90	− 19 23 50·0	54 46·74	14 56·10	+0·532	+ 0·041	− 1·67	− 1·9	18 10 51·38	− 18 50 13·1	48·34	21·7
835	18 13 17·69	− 19 23 38·5	54 46·83	14 56·13	+0·532	+ 0·041	− 1·67	− 1·9	18 11 11·84	− 18 59 58·6	8·80	67·2
836	18 13 30·80	− 19 23 23·0	54 46·95	14 56·16	+0·532	+ 0·041	− 1·67	− 1·9	18 11 12·67	− 19 6 26·8	9·62	35·3
837	19 2 52·34	− 17 59 49·1	55 19·28	15 4·97	+0·533	+ 0·079	− 1·68	− 3·7	19 0 60·44	− 17 28 14·3	57·22	27·2
838	19 3 19·66	− 17 58 56·4	55 19·59	15 5·05	+0·533	+ 0·079	− 1·68	− 3·7	19 1 3·30	− 17 23 36·3	0·08	49·2
839	19 3 48·67	− 17 57 52·4	55 19·94	15 5·15	+0·533	+ 0·079	− 1·68	− 3·7	19 1 37·83	− 17 23 28·1	34·60	41·1
840	20 49 30·14	− 12 17 15·1	56 56·24	15 31·41	+0·535	+ 0·148	− 1·70	− 7·0	20 47 44·30	− 11 56 31·2	40·73	52·7
841	21 39 35·39	− 8 30 48·1	57 51·05	15 46·35	+0·540	+ 0·175	− 1·72	− 8·2	21 38 14·16	− 7 51 14·2	10·43	39·3
842	23 19 20·42	+ 0 12 28·2	59 39·57	16 15·94	+0·563	+ 0·204	− 1·79	− 9·7	23 21 55·57	+ 0 42 77·4	51·46	48·9
843	...	...	...	...	...	...	...	...	...	...	...	...
844	4 33 17·17	+ 19 35 43·0	60 48·43	16 34·71	+0·660	+ 0·041	− 2·10	− 1·9	4 32 30·28	+ 20 29 13·5	25·35	9·0
845	17 56 45·57	− 19 39 25·6	54 25·26	14 50·24	+0·530	+ 0·030	− 1·68	− 1·4	17 54 36·93	− 19 13 22·3	34·26	29·8
846	19 37 32·63	− 16 31 14·8	55 15·95	15 4·06	+0·525	+ 0·100	− 1·66	− 4·7	19 35 46·27	− 16 0 27·0	43·34	42·2
847	19 40 41·04	− 16 22 7·3	55 18·04	15 4·63	+0·525	+ 0·103	− 1·66	− 4·8	19 37 57·74	− 15 41 43·3	54·79	58·5
848	21 7 27·03	− 11 7 35·8	56 4·44	15 17·28	+0·517	+ 0·167	− 1·64	− 7·2	21 5 26·31	− 10 36 24·3	23·40	44·6
849	21 56 6·48	− 7 17 38·6	56 39·74	15 26·90	+0·516	+ 0·172	− 1·64	− 8·2	21 54 30·07	− 6 44 28·2	26·99	51·0
850	23 43 43·79	+ 2 15 31·2	58 10·39	15 51·62	+0·534	+ 0·192	− 1·71	− 9·1	23 41 23·59	+ 2 56 40·8	19·96	14·9

804. The Mean R.A. and Dec. are the mean of *Cincinnati* and *Washington Zones*.

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Cape Sid. Time.	G.M.T.	Remarks.
	1901.						h m s	h m s	
851	Dec. 19	Lalande 860	8·3	D.D.	7 inch	I.	3 5 24·3	8 0 37·1	*g*.
852	22	Piazzi III. 60..... .	6·5	D.D.	7 inch	I.	1 41 27·9	6 25 6·7	*g*.
	1902.								
853	Jan. 15	Lalande 343	7·0	D.D.	7 inch	I.	3 59 41·7	7 8 36·0	*g*, red (6).
854	17	B.D. + 13° 338...	8·6	D.D.	7 inch	I.	4 32 0·1	7 32 57·2	*g*, gl, $0^{s}\cdot6$, mean recorded.
855	18	53 Arietis	6·0	D.D.	7 inch	I.	4 39 57·6	7 36 57·5	*g*, i, white. [went first.
856	19	43 Tauri.....	5·5	D.D.	7 inch	I.	5 27 18·7	8 20 15·0	Yellow (4), in 2 parts, $0^{s}\cdot2$, greater part of light
857	31	ν Libræ	5·3	R.D.	7 inch	I.	12 18 10·7	14 22 48·7	g.
858	Feb. 15	Lalande 7064.....	8·5	D.D.	7 inch	I.	5 36 12·8	6 42 58·1	*g*, gl.
859	17	χ^{1} Orionis	4·6	D.D.	7 inch	I.	7 5 37·6	8 4 16·4	*g*, colour = moon, not gl, but not i.
860	17	,,	...	D.D.	6 inch	H.	37·2	16·0	
861	Mar. 15	Lalande 8654	7·8	D.D.	7 inch	I.	7 38 8·2	6 54 28·1	*g*, in 2 parts, $0^{s}\cdot4$, mean recorded.
862	17	B.D. + 19° 1397..	9·3	D.D.	7 inch	I.	6 52 51·2	6 1 26·7	*g*.
863	17	B.D. + 19° 1399..	9·3	D.D.	7 inch	I.	6 58 54·0	6 7 28·5	*g*, gl.
864	17	W.B. (2) VI. 806..	8·0	D.D.	7 inch	I.	7 10 7·3	6 18 40·0	*g*.
865	17	Lalande 12650.....	7·8	D.D.	7 inch	I.	7 44 54·3	6 53 21·3	*g*.
866	20	*h* Leonis.....	5·2	D.D.	7 inch	I.	12 38 59·2	11 34 50·3	*g*, i, yellow (3).
867	20	,,	...	D.D.	6 inch	H.	59·5	50·6	*g*.
868	25	*h* Virginis	5·4	R.D.	7 inch	I.	9 17 5·9	7 53 50·5	*g*.
869	28	Lalande 29395	6·4	R.D.	7 inch	I.	15 41 26·4	14 5 20·3	g, gl.
870	29	29 Ophiuchi	6·4	R.D.	7 inch	I.	16 16 17·2	14 36 9·5	*g*.
871	Apr. 3	Lalande 41163.....	6·5	R.D.	7 inch	I.	15 43 43·4	13 44 1·5	fr, through trees.
872	11	W.B. (2) IV. 103.	8·6	D.D.	7 inch	I.	8 3 27·1	5 33 33·4	*g*.
873	13	B.D. + 19° 1297.	8·6	D.D.	7 inch	I.	7 55 13·1	5 17 28·9	*g*, not i.
874	16	Mayer 408.....	6·5	D.D.	7 inch	I.	8 18 45·9	5 29 10·1	*g*.
875	May 10	57 Orionis.....	5·8	D.D.	7 inch	I.	9 12 25·2	4 48 18·9	*g*.
876	10	B.D. + 19° 1128..	8·5	D.D.	7 inch	I.	9 38 33·9	5 14 23·3	*g*, at S. point.
877	12	1 Cancri.....	6·0	D.D.	7 inch	I.	9 43 49·6	5 11 46·3	*g*, gl.
878	12	,,	...	D.D.	6 inch	H.	49·6	46·3	g.
879	June 10	Lalande 18696.....	7·9	D.D.	7 inch	I.	12 24 17·6	5 57 46·6	g.
880	10	*h* Leonis.....	5·2	D.D.	7 inch	I.	13 8 8·1	6 41 29·9	*g*, gl, quickly, red (6).
881	10	,,	...	D.D.	6 inch	H.	8·1	29·9	
882	17	32 Libræ.....	5·9	D.D.	7 inch	I.	20 59 49·3	14 4 22·5	g.
883	24	Lalande 41163.....	6·5	R.D.	7 inch	I.	19 48 27·5	12 25 41·0	g, gl.
884	July 11	*f* Virginis	6·0	D.D.	7 inch	I.	15 8 35·2	6 39 44·1	i, white.
885	11	Mayer 534.....	6·9	D.D.	7 inch	I.	16 55 17·4	8 26 8·8	fr.
886	11	Lalande 23656.....	8·5	D.D.	7 inch	I.	17 6 22·2	8 37 11·8	*g*, gl.
887	18	Mayer 750.....	5·0	D.D.	7 inch	I.	20 37 10·6	11 39 54·3	*g*, white. Note.
888	18	Piazzi XVIII. 91 ..	8·2	D.D.	7 inch	I.	20 41 42·7	11 44 25·6	g.
889	Aug. 7	Piazzi XII. 33.....	6·6	D.D.	7 inch	I.	16 34 46·3	6 19 31·5	$\pm0^{s}\cdot3$. Disturbed by No. 890.
890	7	Piazzi XII. 32.....	7·5	D.D.	7 inch	I.	16 34 53·9	6 19 39·1	*g*, in 2 parts, $0^{s}\cdot2$.
891	Sept. 4	Mayer 537..... ...	6·3	D.D.	6 inch	C.	17 55 18·7	5 49 45·3	Very bad definition.
892	14	Lalande 41163.....	6·5	D.D.	7 inch	H.	21 31 7·9	8 45 40·1	*f*, very bad definition.
893	14	,,	...	D.D.	6 inch	C.	8·6	40·8	*f*, very bad definition.
894	Oct. 11	Mayer 885.....	6·4	D.D.	7 inch	H.	22 48 3·5	8 16 13·6	Bad observation.
895	11	,,	...	D.D.	6 inch	C.	3·0	13·1	Bad definition.
896	18	Lalande 5671	6·5	R.D.	6 inch	C.	0 13 37·1	9 14 1·8	
897	Nov. 6	Mayer 820.....	5·5	D.D.	6 inch	C.	22 14 44·2	6 0 46·2	
898	6	,,	...	D.D.	7 inch	H.	44·5	46·5	g.
899	9	44 Aquarii.....	5·7	D.D.	7 inch	H.	3 39 43·8	11 13 4·8	Invisible at times, atrocious definition.
900*	17	Lalande 11088.....	6·0	R.D.	7 inch	H.	5 13 15·7	12 14 54·1	[S.T. increased 1^{m}.]

887. Greater part of light disappeared at time noted, remainder about $0^{s}\cdot3$ later.

Digitized by Google

No.	Moon's Tabular,				Var. in 1s.		Newcomb's Corr.		Star's Apparent,		Sec. of Mean,	
	R.A.	Dec.	Par.	S.-diam.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.
	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
851	0 31 13·51	+ 6 26 5·4	58 51·64	16 2·86	+0·553	+ 0·188	− 1·77	− 8·9	0 30 4·51	+ 7 10 66·9	0·70	40·2
852	3 19 9·30	+ 17 27 40·0	60 39·58	16 32·30	+0·640	+ 0·106	− 2·04	− 5·0	3 21 29·37	+ 18 24 50·5	24·05	36·8
853	0 17 6·36	+ 4 57 48·4	58 8·33	15 51·06	+0·538	+ 0·187	− 1·72	− 8·9	0 15 3·30	+ 5 44 56·5	2·82	52·9
854	2 5 18·89	+ 13 18 53·0	59 7·19	16 7·11	+0·583	+ 0·150	− 1·86	− 7·1	2 4 20·81	+ 13 56 36·0	19·62	33·7
855	3 2 43·76	+ 16 31 56·7	59 32·16	16 13·92	+0·610	+ 0·114	− 1·94	− 5·5	3 1 56·07	+ 17 30 7·8	54·52	7·0
856	4 4 14·30	+ 18 48 47·0	59 51·45	16 19·17	+0·633	+ 0·068	− 2·02	− 3·2	4 3 29·22	+ 19 20 59·2	27·33	61·1
857	15 0 7·74	− 16 16 54·1	54 16·14	14 47·76	+0·504	− 0·098	− 1·62	+ 4·7	15 1 10·54	− 15 52 36·5	9·50	37·3
858	3 45 40·61	+ 17 59 44·7	59 12·99	16 8·69	+0·614	+ 0·081	− 1·96	− 4·0	3 44 45·68	+ 18 57 20·5	44·28	22·5
859	5 48 40·18	+ 19 31 49·8	59 12·08	16 8·45	+0·626	− 0·021	− 1·99	+ 1·0	5 48 36·78	+ 20 15 21·9	34·74	29·4
860	40·16	...	...	...	...	...	...	...	...	...	...	...
861	4 32 22·89	+ 18 57 56·7	59 23·87	16 11·66	+0·625	+ 0·044	− 2·00	+ 2·2	4 30 51·24	+ 19 33 28·4	50·08	33·3
862	6 29 25·81	+ 18 41 34·2	58 48·08	16 1·90	+0·611	− 0·054	− 1·95	+ 2·6	6 30 9·08	+ 19 33 0·9	7·34	10·4
863	6 29 40·53	+ 18 41 14·5	58 47·99	16 1·87	+0·611	− 0·054	− 1·95	+ 2·6	6 30 21·07	+ 19 28 45·6	19·33	55·2
864	6 30 7·86	+ 18 40 37·7	58 47·81	16 1·82	+0·611	− 0·054	− 1·94	+ 2·7	6 30 21·86	+ 19 38 4·0	20·12	13·5
865	6 31 32·53	+ 18 38 42·3	58 47·29	16 1·68	+0·610	− 0·056	− 1·94	+ 2·7	6 31 17·28	+ 19 14 21·4	15·54	31·0
866	9 28 20·18	+ 9 41 9·4	57 27·18	15 39·84	+0·541	− 0·162	− 1·74	+ 7·7	9 26 44·77	+ 10 8 36·0	42·45	53·0
867	20·19	...	...	...	...	...	...	...	...	...	...	...
868	13 26 7·97	− 10 6 21·5	55 7·03	15 1·63	+0·501	− 0·147	− 1·61	+ 7·0	13 27 50·93	− 9 39 49·0	48·28	36·5
869	16 5 2·89	− 18 17 9·7	54 11·67	14 46·53	+0·517	− 0·055	− 1·66	+ 2·7	16 4 18·92	− 18 4 51·3	16·54	50·1
870	16 55 58·96	− 19 12 36·2	54 10·29	14 46·16	+0·522	− 0·019	− 1·67	+ 1·0	16 56 9·34	− 18 44 27·3	7·19	29·5
871	21 5 57·11	− 11 14 27·4	56 31·42	15 24·64	+0·527	+ 0·147	− 1·71	− 7·0	21 8 59·32	− 11 0 30·5	58·63	37·1
872	4 11 11·33	+ 18 24 45·3	60 20·45	16 27·08	+0·643	+ 0·062	− 2·06	− 3·1	4 8 39·16	+ 19 19 50·7	38·50	56·0
873	6 13 10·94	+ 18 53 32·9	59 27·83	16 12·74	+0·627	− 0·041	− 2·01	+ 2·0	6 12 46·21	+ 19 36 25·7	45·06	34·6
874	9 2 57·73	+ 11 25 1·9	57 35·31	15 42·05	+0·548	− 0·150	− 1·75	+ 7·1	9 4 28·77	+ 11 57 34·0	26·89	49·3
875	5 51 0·39	+ 19 11 12·0	60 37·61	16 31·75	+0·655	− 0·025	− 2·11	+ 1·2	5 49 9·29	+ 19 43 42·4	8·55	50·9
876	5 52 8·71	+ 19 10 33·5	60 37·11	16 31·62	+0·655	− 0·025	− 2·10	+ 1·3	5 49 12·60	+ 19 35 0·8	11·86	9·3
877	7 52 55·91	+ 15 35 15·1	59 12·70	16 8·61	+0·599	− 0·117	− 1·93	+ 5·6	7 51 26·78	+ 16 2 56·4	25·63	68·3
878	...	...	...	...	...	...	...	...	...	...	...	...
879	9 27 6·53	+ 9 50 50·9	58 38·19	15 59·20	+0·561	− 0·166	− 1·82	+ 8·1	9 25 46·88	+ 10 34 56·7	45·63	69·8
880	9 28 44·62	+ 9 43 34·3	58 36·41	15 58·71	+0·560	− 0·167	− 1·81	+ 8·1	9 26 43·72	+ 10 8 39·7	42·45	53·0
881	...	...	...	...	...	...	...	...	...	...	...	...
882	15 24 54·87	− 16 52 55·4	54 6·19	14 45·04	+0·509	− 0·083	− 1·64	+ 4·0	15 22 47·08	− 16 22 35·3	43·67	29·8
883	21 8 54·59	− 11 15 48·4	55 13·06	15 3·28	+0·504	+ 0·140	− 1·63	− 6·8	21 8 61·68	− 11 0 18·5	58·63	37·1
884	12 33 5·80	− 5 33 58·3	56 5·08	15 17·45	+0·502	− 0·167	− 1·63	+ 8·2	12 31 46·49	− 5 17 42·7	44·44	30·3
885	12 36 39·61	− 5 51 42·6	56 1·66	15 16·52	+0·502	− 0·166	− 1·63	+ 8·1	12 34 29·39	− 5 33 54·9	27·32	42·6
886	12 37 1·80	− 5 53 32·7	56 1·31	15 16·42	+0·502	− 0·166	− 1·63	+ 8·1	12 35 7·61	− 5 26 55·4	5·52	43·2
887	18 26 27·95	− 18 44 12·6	54 15·97	14 47·71	+0·524	+ 0·041	− 1·70	− 1·9	18 25 45·68	− 18 28 1·0	41·75	12·1
888	18 26 37·44	− 18 44 1·6	54 16·01	14 47·72	+0·524	+ 0·041	− 1·70	− 1·9	18 25 43·05	− 18 19 37·4	39·13	48·9
889	12 15 6·91	− 3 48 26·4	56 56·37	15 31·44	+0·518	− 0·176	− 1·69	+ 8·6	12 13 9·51	− 3 24 28·2	7·87	17·6
890	12 15 7·17	− 3 48 27·8	56 56·37	15 31·44	+0·518	− 0·176	− 1·69	+ 8·6	12 13 9·10	− 3 24 47·3	7·46	36·7
891	12 44 49·92	− 6 6 41·2	56 42·44	15 27·64	+0·519	− 0·167	− 1·71	+ 8·2	12 42 31·09	− 5 45 64·3	29·50	55·6
892	21 8 20·18	− 11 22 10·9	55 43·89	15 11·69	+0·516	+ 0·138	− 1·68	− 6·6	21 8 62·44	− 11 0 13·1	58·63	37·1
893	20·20	10·8	...	...	...	...	...	...	...	...	...	...
894	20 48 57·30	− 12 31 41·9	55 17·41	15 4·46	+0·510	+ 0·125	− 1·67	− 6·1	20 47 47·43	− 11 56 17·2	44·01	39·3
895	57·28	42·0	...	...	...	...	...	...	...	...	...	...
896	2 58 1·48	+ 14 55 12·1	59 53·68	16 19·78	+0·615	+ 0·122	− 2·01	− 5·9	2 59 17·78	+ 15 28 46·5	13·35	33·5
897	19 39 11·19	− 16 9 44·9	54 16·86	14 47·96	+0·507	+ 0·084	− 1·66	− 4·2	19 37 60·95	− 15 41 33·8	58·21	50·3
898	11·20	...	...	...	...	...	...	...	...	...	...	...
899	22 14 15·54	− 6 29 32·8	55 59·76	15 16·01	+0·504	+ 0·160	− 1·65	− 7·8	22 11 62·87	− 5 52 11·2	59·56	36·0
900	5 46 55·05	+ 18 48 53·3	60 48·17	16 34·64	+0·659	− 0·012	− 2·16	+ 0·6	5 46 39·76	+ 19 50 28·2	35·00	34·5

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Cape Sid. Time.	G.M.T.	Remarks.
	1902.						h m s	h m s	
901	Nov. 17	57 Orionis	5·8	R.D.	7 inch	H.	6 51 55·2	13 53 17·4	
902*	Dec. 20	75 Leonis	5·4	R.D.	6 inch	H.	6 36 51·2	11 28 30·9	g. [S.T. diminished 1m.]
	1903.								
903	Jan. 17	Lalande 22312	6·2	R.D.	6 inch	H.	7 50 24·6	10 51 46·7	?, *f*.
904	Feb. 7	Mayer 210	6·6	D.D.	7 inch	H.	5 56 22·7	7 35 29·4	
905	7	„	...	D.D.	6 inch	C.	22·2	28·9	Very bad definition.
906	19	24 Scorpii	5·0	R.D.	7 inch	H.	14 9 15·2	14 59 50·2	
907	Mar. 5	Lalande 7524	6·8	D.D.	7 inch	I.	8 22 47·0	8 19 16·1	g.
908	19	Mayer 691	6·2	R.D.	18 inch	I.	11 48 25·8	10 49 18·5	p, haze.
909	Apr. 2	B.D. + 18° 717	8·0	D.D.	7 inch	C.	8 23 56·5	6 30 20·0	Very bad definition.
910	2	Mayer 177	6·1	D.D.	7 inch	C.	8 27 7·3	6 33 30·3	„ „
911	4	Lalande 13021	6·2	D.D.	7 inch	C.	9 33 15·2	7 31 35·6	g.
912	4	„	...	D.D.	Heliom.	V.L.	15·5	35·9	
913	June 6	2 Libræ	6·3	D.D.	6 inch	C.	10 42 45·0	4 33 11·8	Very bad definition.
914	July 12	c^2 Capricorni	6·3	R.D.	7 inch	H.	18 3 57·6	9 31 39·3	?.
915	Aug. 1	η Libræ	5·5	D.D.	7 inch	H.	17 56 36·0	8 5 40·7	
916	26	*m* Virginis	5·2	D.D.	6 inch	H.	19 18 45·8	7 49 19·3	Very bad definition.
917	26	„	...	D.D.	7 inch	C.	45·4	18·9	„ „
918	Sept. 2	54 Sagittarii	5·5	D.D.	6 inch	H.	18 24 47·7	6 27 58·7	
919	2	„	...	D.D.	7 inch	C.	47·3	58·3	
920	2	*e* Sagittarii	5·2	D.D.	7 inch	C.	19 40 34·4	7 43 33·0	
921	2	„	...	D.D.	6 inch	H.	34·3	32·9	
922	2	„	...	D.D.	Heliom.	W.W.	34·6	33·2	
923	Oct. 22	γ Libræ	4·1	D.D.	6 inch	H.	21 25 18·2	6 11 24·4	
924	22	„	...	D.D.	7 inch	C.	17·6	23·8	Very bad definition.
925	Dec. 31	68 Tauri	4·3	D.D.	7 inch	H.	2 47 30·4	6 57 30·1	
926	31	B.D. + 17° 750	6·5	D.D.	7 inch	H.	7 33 41·0	11 42 53·8	?, c, not separated at disappearance.
	1904.								
927	Jan. 24	Piazzi I. 85	6·4	D.D.	7 inch	C.	6 44 14·3	9 19 13·3	*p*, low down, definition very bad.
928	Feb. 25	119 Tauri	4·9	D.D.	7 inch	C.	5 38 28·9	6 7 49·7	Definition very bad.
929	Mar. 4	*l* Virginis	4·8	R.D.	6 inch	H.	8 51 38·7	8 49 0·6	
930	Apr. 22	Piazzi VII. 261	6·0	D.D.	6 inch	H.	11 32 36·1	8 16 52·2	*g*.
931	22	„	...	D.D.	7 inch	C.	35·8	51·9	
932	May 1	ϕ Ophiuchi	4·4	R.D.	7 inch	H.	15 44 43·4	11 52 55·0	g.
933	24	η Virginis	4·0	D.D.	7 inch	H.	10 26 59·6	5 5 37·4	g, c.
934	June 4	ρ Aquarii	5·3	R.D.	7 inch	C.	23 24 9·2	17 17 24·6	g, c.
935	July 7	38 Arietis	5·2	R.D.	7 inch	H.	0 48 14·7	16 31 41·3	g.
936	18	38 Virginis	6·1	D.D.	6 inch	H.	18 21 8·0	9 22 13·0	*g*.
937	22	ϕ Ophiuchi	4·4	D.D.	7 inch	H.	19 33 0·8	10 18 10·4	
938	Sept. 13	13 Libræ	5·8	D.D.	7 inch	H.	17 46 56·3	5 4 0·2	*g*.
939	22	67 Aquarii	6·4	D.D.	7 inch	H.	18 36 19·2	5 17 51·8	
940	Oct. 27	*m* Tauri	5·0	R.D.	7 inch	H.	6 21 55·1	14 43 55·4	g.
941	Dec. 16	77 Piscium	6·4	D.D.	6 inch	C.	4 11 11·0	9 16 57·2	
942	16	Bradley 125	7·2	D.D.	6 inch	C.	4 12 26·8	9 18 12·8	
	1905.								
943	Jan. 26	80 Virginis	5·7	R.D.	6 inch	H.	8 24 18·4	10 48 10·8	g.
944	Mar. 17	o^1 Cancri	5·1	D.D.	7 inch	H.	11 49 4·9	10 55 48·4	
945	Apr. 16	σ Leonis	4·2	D.D.	7 inch	C.	10 37 13·2	7 46 11·3	g.
946	24	ρ Sagittarii	4·0	R.D.	7 inch	H.	17 45 18·1	14 21 38·8	g.
947	May 10	ζ Cancri	5·1	D.D.	7 inch	P.	10 44 48·6	6 19 23·7	
948	10	Piazzi VIII. 6	5·6	D.D.	7 inch	P.	10 45 1·1	6 19 36·1	
949	10	„	...	D.D.	10 inch	W.	1·4	36·4	
950	10	B.D. + 18° 1870	9·1	D.D.	7 inch	P.	10 56 27·3	6 31 0·5	

Digitized by Google

No.	Moon's Tabular,				Var. in 1s.		Newcomb's Corr.		Star's Apparent,		Sec. of Mean,	
	R.A.	Dec.	Par.	S.-diam.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.
	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
901	5 51 14·14	+ 18 47 28·3	60 47·10	16 34·35	+0·658	− 0·016	− 2·15	+ 0·8	5 49 13·30	+ 19 43 44·1	8·55	50·9
902	11 10 8·26	+ 2 9 50·0	57 53·63	15 47·05	+0·533	− 0·181	− 1·76	+ 8·9	11 12 18·43	+ 2 32 33·7	14·82	58·0
903	11 42 25·68	− 0 18 24·0	58 16·42	15 53·27	+0·540	− 0·184	− 1·78	+ 9·1	11 44 5·71	+ 0 13 5·5	4·49	13·6
904	5 14 14·40	+ 18 33 43·0	59 55·79	16 20·36	+0·637	+ 0·021	− 2·10	− 1·1	5 14 36·63	+ 19 28 36·3	34·97	44·1
905	14·38	...	...	...	...	...	...	...	...	...	...	...
906	16 35 8·42	− 17 52 41·4	54 32·40	14 52·19	+0·522	− 0·045	− 1·72	+ 2·2	16 35 58·45	− 17 33 12·2	57·69	17·1
907	4 1 45·85	+ 16 52 26·8	58 31·54	15 57·39	+0·596	+ 0·078	− 1·96	− 3·8	3 59 7·15	+ 17 14 57·8	6·35	64·1
908	16 59 46·37	− 18 9 34·3	54 42·05	14 54·82	+0·527	− 0·029	− 1·75	+ 1·4	17 2 38·25	− 17 28 46·5	36·82	50·8
909	4 42 16·62	+ 17 50 43·2	58 55·60	16 3·94	+0·612	+ 0·046	− 2·02	− 2·4	4 40 26·04	+ 18 37 15·1	25·50	23·3
910	4 42 24·39	+ 17 50 52·2	58 55·63	16 3·95	+0·612	+ 0·046	− 2·02	− 2·4	4 40 37·47	+ 18 33 26·0	36·94	34·2
911	6 43 25·20	+ 17 47 54·4	59 14·55	16 9·11	+0·617	− 0·050	− 2·03	+ 2·5	6 41 44·48	+ 18 17 44·3	43·42	55 4
912	25·21	...	...	...	...	...	...	...	...	...	...	...
913	14 14 45·99	− 11 35 16·0	56 4·64	15 17·33	+0·524	− 0·133	− 1·74	+ 6·7	14 18 15·07	− 11 16 23·3	12·34	15·8
914	21 39 41·76	− 10 8 58·8	54 9·89	14 46·05	+0·485	+ 0·133	− 1·61	− 6·7	21 41 8·78	− 9 43 4·4	5·82	24·6
915	15 39 26·75	− 15 40 55·1	55 27·63	15 7·20	+0·528	− 0·088	− 1·76	+ 4·4	15 38 39·67	− 15 21 50·2	36·88	50·0
916	13 39 17·26	− 8 30 32·5	58 2·77	15 49·54	+0·550	− 0·158	− 1·86	+ 8·0	13 36 32·75	− 8 12 53·7	31·17	49·1
917	17·25	32·4	...	...	...	...	...	...	...	...	...	...
918	19 33 34·50	− 16 36 51·2	54 4·19	14 44·50	+0·509	+ 0·066	− 1·70	− 3·3	19 35 13·42	− 16 30 39·5	10·01	57·1
919	34·49	...	...	...	...	...	...	...	...	...	...	...
920	19 36 8·38	− 16 31 53·4	54 3·98	14 44·44	+0·509	− 0·068	− 1·69	− 3·4	19 36 61·67	− 16 20 47·8	58·26	65·6
921	8·38	...	...	...	...	...	...	...	...	...	...	...
922	8·39	...	...	...	...	...	...	...	...	...	...	...
923	15 32 35·21	− 15 8 6·0	56 54·74	15 30·99	+0·558	− 0·098	− 1·88	+ 4·9	15 30 7·51	− 14 27 56·0	5·91	58·4
924	35·19	5·9	...	...	...	...	...	...	...	...	...	...
925	4 17 45·42	+ 16 47 28·3	59 5·86	16 5·74	+0·610	+ 0·079	− 2·07	− 4·0	4 19 57·39	+ 17 42 24·6	52·60	22·8
926	4 29 24·80	+ 17 8 52·6	59 16·27	16 9·58	+0·616	+ 0·070	− 2·09	− 3·5	4 27 60·80	+ 17 48 44·3	55·97	43·3
927	1 25 34·06	+ 6 48 1·8	55 29·08	15 7·64	+0·496	+ 0·151	− 1·69	− 7·7	1 23 20·89	+ 7 27 46·8	20·77	50·4
928	5 26 13·56	+ 17 58 43·0	58 29·27	15 56·76	+0·603	+ 0·029	− 2·06	− 1·4	5 26 36·07	+ 18 31 13·9	35·06	23·6
929	13 24 27·65	− 6 31 11·9	59 40·77	16 16·26	+0·577	− 0·175	− 1·97	+ 8·9	13 26 59·95	− 5 45 43·3	58·36	36·7
930	7 54 55·02	+ 16 15 26·7	58 51·62	16 2·86	+0·600	− 0·085	− 2·04	+ 4·3	7 53 3·61	+ 16 46 27·2	2·94	38·8
931	55·01	...	...	...	...	...	...	...	...	...	...	...
932	16 26 9·62	− 16 46 15·0	57 31·72	15 41·08	+0·579	− 0·072	− 1·98	+ 3·8	16 25 40·84	− 16 24 10·8	38·56	13·3
933	12 12 32·57	− 0 35 39·4	59 9·33	16 7·69	+0·559	− 0·186	− 1·90	+ 9·5	12 14 61·35	− 0 7 69·6	59·66	59·7
934	22 17 4·78	− 8 44 3·1	54 15·62	14 47·61	+0·480	+ 0·138	− 1·65	− 7·1	22 15 10·27	− 8 18 0·2	8·89	11·9
935	2 39 19·43	+ 11 25 25·4	56 9·30	15 18·60	+0·523	+ 0·133	− 1·80	− 6·9	2 39 44·68	+ 12 2 30·5	43·63	31·1
936	12 51 21·24	− 3 18 48·5	59 9·76	16 7·81	+0·560	− 0·183	− 1·92	+ 9·4	12 48 17·49	− 3 1 58·9	16·17	53·3
937	16 27 6·38	− 16 39 29·1	56 38·46	15 26·56	+0·559	− 0·076	− 1·91	+ 3·9	16 25 41·30	− 16 24 9·3	38·56	13·3
938	14 50 34·08	− 11 48 50·8	59 12·75	16 8·62	+0·584	− 0·143	− 2·03	+ 7·4	14 49 11·42	− 11 30 23·3	10·05	24·6
939	22 34 42·25	− 7 51 18·9	53 59·72	14 43·28	+0·477	+ 0·141	− 1·65	− 7·2	22 38 16·65	− 7 27 33·8	13·49	56·3
940	5 3 56·00	+ 17 39 58·7	56 24·70	15 22·80	+0·561	+ 0·051	− 1·94	− 2·6	5 1 50·13	+ 18 30 57·2	46·51	59·7
941	1 2 27·30	+ 3 41 14·0	54 29·99	14 51·53	+0·474	+ 0·157	− 1·66	− 8·2	1 0 54·30	+ 4 23 66·4	51·15	50·3
942	1 2 29·69	+ 3 41 25·8	54 30·00	14 51·53	+0·474	+ 0·157	− 1·66	− 8·2	1 0 56·47	+ 4 23 71·1	53·32	55·0*
943	13 28 29·04	− 5 27 36·8	59 18·50	16 10·19	+0·565	− 0·181	− 1·98	+ 9·4	13 30 34·92	− 4 54 43·9	34·67	44·5
944	8 53 16·05	+ 14 57 30·9	59 36·15	16 15·00	+0·607	− 0·116	− 2·15	+ 6·1	8 51 58·27	+ 15 41 3·0	57·13	14·5
945	11 14 48·36	+ 5 44 6·8	60 38·09	16 31·88	+0·593	− 0·190	− 2·10	+ 10·0	11 16 15·65	+ 6 32 50·0	14·30	60·1
946	19 15 58·68	− 18 22 5·2	56 58·59	15 32·04	+0·573	+ 0·038	− 2·01	− 2·1	19 16 10·70	− 18 1 26·7	9·82	34·9
947	8 7 50·25	+ 17 10 56·3	57 21·35	15 38·25	+0·573	− 0·077	− 2·01	+ 4·1	8 6 45·99	+ 17 55 55·9	45·91	64·5
948	8 7 50·73	+ 17 10 55·4	57 21·35	15 38·25	+0·573	− 0·077	− 2·01	+ 4·1	8 6 46·37	+ 17 55 52·7	46·29	61·3*
949	50·74	...	...	...	...	...	...	...	...	...	...	...
950	8 8 16·87	+ 17 10 2·1	57 21·66	15 38·34	+0·573	− 0·079	− 2·01	+ 4·1	8 7 5·25	+ 17 54 4·4	5·17	13·0

942. Greenwich 1880 difference of R.A. and Dec. from No. 941 used.
948. Greenwich 1880 and 1890 difference of R.A. and Dec. from No. 947 used.

Digitized by Google

No.	Date.	Star.	Mag.	Phase.	Instrument.	Obs.	Cape Sid. Time.	G.M.T.	Remarks.
	1905.						h m s	h m s	
951	June 12	80 Virginis.....	5·7	D.D.	7 inch	H.	17 44 15·5	11 7 56·8	*l*.
952	21	37 Aquarii.....	7·0	R.D.	7 inch	H.	20 44 3·0	13 31 51·7	
953	July 7	σ Leonis	4·2	D.D.	7 inch	H.	12 42 52·9	4 29 5·8	*g*.
954	20	Mayer 997.....	6·4	R.D.	7 inch	H.	23 43 12·0	14 36 29·9	
955	Aug. 7	15 Libræ.....	5·7	D.D.	7 inch	J.P.	20 11 17·6	9 54 23·9	
956	7	18 Libræ...	5·9	D.D.	7 inch	J.P.	21 6 37·3	10 49 34·5	Moon behind mountain $21^h\ 8^m$ S.T.
957	Sept. 12	λ Aquarii.....	3·8	D.D.	18 inch	L.	22 10 8·2	9 31 22·3	
958	12	,,	...	R.B.	18 inch	L.	23 23 11·0	10 44 13·2	
959	Nov. 3	Mayer 877.....	5·9	D.D.	7 inch	H.	22 10 42·1	6 7 29·0	
960	28	Y Sagittarii	var.	D.D.	6 inch	P.	23 53 21·0	6 11 33·3	
961	30	B.D. — 17° 5948..	7·8	D.D.	7 inch	P.	0 46 1·8	6 56 13·7	
962	Dec. 2	37 Aquarii.....	7·0	D.D.	7 inch	P.	3 7 7·2	9 9 4·2	
963	10	64 Tauri	4·9	D.D.	10 inch	W.	2 9 34·3	7 40 13·4	
964	10	,,	...	D.D.	7 inch	P.	34·7	13·8	d, near bright edge.
	1906.								
965	Jan. 8	Lalande 11088.....	6·1	D.D.	6 inch	P.	5 27 0·6	9 3 5·9	
966	11	θ Cancri.....	5·6	R.D.	7 inch	P.	4 6 53·8	7 31 24·5	
967	Feb. 19	Mayer 815	6·0	R.D.	6 inch	P.	13 15 43·2	14 5 23·5	
968	Mar. 3	*m* Tauri.....	5·1	D.D.	6 inch	P.	6 0 39·4	6 4 20·1	
969	4	χ^2 Orionis.....	4·7	D.D.	6 inch	P.	9 14 41·7	9 13 54·7	
970	17	Y Sagittarii	var.	R.D.	6 inch	P.	13 6 53·4	12 14 21·6	
971	20	29 Capricorni	5·5	R.D.	6 inch	P.	16 17 14·7	15 12 24·0	
972	Apr. 2	61 Geminorum.....	5·7	D.D.	6 inch	P.	9 16 21·3	7 21 32·8	Near N. point, rather sluggish.
973	10	18 Libræ.....	5·9	R.D.	6 inch	P.	13 39 21·7	11 12 22·8	
974	11	Lalande 28847.....	6·5	R.D.	6 inch	P.	9 50 17·3	7 20 0·1	Very bad, ☽ low in E. Note.
975	14	Bradley 2402... ...	5·4	R.D.	6 inch	P.	17 8 5·8	14 24 49·1	
976	May 1	Mayer 394.....	6·5	D.D.	6 inch	P.	10 55 35·5	7 6 29·4	
977	9	ϕ Ophiuchi.....	4·4	R.D.	6 inch	P.	14 2 28·3	9 41 24·3	
978	17	4 Ceti.....	6·4	R.D.	6 inch	P.	19 22 18·1	14 28 54·5	
979	June 4	18 Libræ.....	5·9	D.D.	6 inch	P.	13 49 47·5	7 46 32·0	
980	July 8	μ Capricorni.....	5·2	R.D.	6 inch	P.	23 11 18·4	14 52 49·9	
981	16	64 Tauri	4·9	D.B.	6 inch	P.	1 22 16·8	16 31 59·5	Rather too f for D.B.
982	16	,,	...	R.D.	6 inch	P.	2 35 57·3	17 45 28·0	f, daylight.
983	Aug. 9	ν Piscium.....	4·6	R.D.	6 inch	P.	0 33 27·0	14 8 55·9	
984	10	Lalande 4602.....	6·3	R.D.	6 inch	P.	1 34 48·3	15 6 11·2	
985†	24	B.D. — 5° 3798...	8·0	D.D.	6 inch	P.	16 46 19·3	5 24 6·1	
986	Sept. 5	*f* Piscium.....	5·4	R.D.	6 inch	P.	22 17 20·6	10 7 2·3	
987	24	B.D. — 19° 4682..	9·0	D.D.	6 inch	P.	20 7 10·7	6 42 31·5	
988	24	O.A. 17070.....	8·7	D.D.	6 inch	P.	20 8 58·2	6 44 18·7	
989	24	O.A. 17098.....	8·5	D.D.	6 inch	P.	20 43 57·7	7 19 12·5	
990	Oct. 28	27 Piscium.....	5·1	D.D.	6 inch	P.	0 48 17·0	9 9 10·9	
991	Dec. 19	45 Capricorni.....	5·8	D.D.	6 inch	P.	2 32 33·5	7 28 43·0	
992	28	Mayer 198.....	6·3	D.D.	6 inch	P.	4 23 20·8	8 43 49·0	Very bad.
993	28	107 Tauri.....	6·6	D.D.	6 inch	P.	6 54 48·5	11 14 51·8	

974, Reappearances of such stars at low altitudes are of little value.
985, Identified by observer as B.D. — 5° 3799.

Digitized by Google

No.	Moon's Tabular,				Var. in 1s.		Newcomb's Corr.		Star's Apparent,		Sec. of Mean,	
	R.A.	Dec.	Par.	S.-diam.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.	R.A.	Dec.
	h m s	° ′ ″	′ ″	′ ″	″	″	s	″	h m s	° ′ ″	s	″
951	13 32 32·29	− 5 29 31·5	59 48·64	16 18·40	+0·574	− 0·189	− 2·02	+ 9·9	13 30 36·29	− 4 54 49·1	34·67	44·5
952	22 5 14·70	− 11 29 33·9	55 30·80	15 8·11	+0·509	+ 0·137	− 1·81	− 7·3	22 5 29·34	− 11 17 4·3	27·75	17·6
953	11 17 31·52	+ 6 11 9·5	59 3·02	16 5·97	+0·561	− 0·182	− 1·98	+ 9·6	11 16 14·80	+ 6 32 55·5	14·30	60·1
954	23 25 51·42	− 5 34 32·0	54 48·66	14 56·62	+0·482	+ 0·159	− 1·71	− 8·4	23 24 39·38	− 5 2 46·4	37·40	60·9
955	14 54 11·49	− 11 20 35·9	59 7·77	16 7·27	+0·578	− 0·156	− 2·03	+ 8·2	14 51 38·25	− 11 1 34·6	36·70	35·4
956	14 56 18·43	− 11 29 10·3	59 7·00	16 7·06	+0·578	− 0·155	− 2·03	+ 8·2	14 53 46·74	− 10 45 43 8	45·18	44·7
957	22 46 48·09	− 8 42 4·7	54 54·34	14 58·17	+0·494	+ 0·150	− 1·75	− 8·0	22 47 42·40	− 8 4 46·7	39·55	66·7
958	22 49 11·93	− 8 31 9·9	54 53·23	14 57·86	+0·493	+ 0·150	− 1·75	− 8·0	22 47 42·40	− 8 4 46·7	39·55	66·7
959	20 35 34·54	− 16 50 29·2	56 44·18	15 28·13	+0·556	+ 0·091	− 1·99	− 4·8	20 35 14·18	− 16 27 30·7	12·27	44·9
960	18 18 20·75	− 19 31 58·3	59 43·13	16 16·91	+0·638	− 0·015	− 2·29	+ 0·9	18 15 48·84	− 18 54 0·4	47·70	9·6
961	20 18 6·86	− 17 46 13·8	57 50·78	15 46·27	+0·584	+ 0·082	− 2·11	− 4·4	20 15 32·36	− 17 7 33·7	30·91	46·3*
962	22 8 33·62	− 12 0 19·8	55 59·27	15 15·87	+0·518	+ 0·141	− 1·86	− 7·5	22 5 29·65	− 11 17 2·5	27·75	17·6
963	4 16 39·32	+ 16 19 24·9	54 30·78	14 51·74	+0·515	+ 0·096	− 1·84	− 5·2	4 18 40·97	+ 17 13 28·6	37·05	26·6
964	39·31	...	...	...	...	...	...	...	...	...	...	...
965	5 45 33·38	+ 19 10 12·9	55 21·52	15 5·58	+0·547	+ 0·040	− 1·96	− 2·1	5 46 49·95	+ 19 50 30·9	49·21	39·0
966	8 24 20·55	+ 17 45 4·1	56 53·35	15 30·61	+0·569	− 0·083	− 2·04	+ 4·4	8 26 14·94	+ 18 24 35·9	14·25	44·9
967	19 28 40·12	− 19 12 17·4	57 56·35	15 47·80	+0·599	+ 0·041	− 2·15	− 2·2	19 31 34·75	− 18 26 22·1	36·13	24·9
968	5 2 10·23	+ 18 1 1·7	54 38·23	14 53·77	+0·521	+ 0·070	− 1·88	− 3·8	5 1 53·62	+ 18 31 1·7	53·61	9·8
969	5 59 51·36	+ 19 22 38·8	55 12·10	15 3·01	+0·541	+ 0·030	− 1·95	− 1·6	5 58 20·53	+ 20 8 20·4	20·26	28·2
970	18 13 4·41	− 19 35 15·1	58 27·96	15 56·41	+0·609	− 0·023	− 2·19	+ 1·2	18 15 50·99	− 18 54 3·4	51·23	8·2
971	21 8 25·80	− 15 54 40·8	56 42·90	15 27·77	+0·552	+ 0·111	− 1·98	− 5·9	21 10 31·68	− 15 33 44·7	32·75	44·5
972	7 22 31·12	+ 19 29 51·4	55 43·75	15 11·64	+0·551	− 0·032	− 1·99	+ 1·8	7 21 24·11	+ 20 26 37·6	23·95	44·7
973	14 53 41·74	− 11 19 46·2	61 1·63	16 38·31	+0·615	− 0·178	− 2·22	+ 9·6	14 53 49·74	− 10 45 61·4	48·42	59·3
974	15 43 38·22	− 14 37 1·7	60 46·94	16 34·30	+0·625	− 0·148	− 2·25	+ 7·9	15 46 24·52	− 13 51 0·5	23·30	0·9
975	19 2 9·87	− 19 49 31·1	58 34·08	15 58·08	+0·612	+ 0·018	− 2·20	− 1·0	19 2 45·67	− 19 26 10·7	45·34	16·4
976	8 51 6·48	+ 17 4 52·2	56 22·69	15 22·26	+0·548	− 0·098	− 1·98	+ 5·4	8 50 5·46	+ 17 35 15·9	5·32	21·8
977	16 24 42·71	− 16 54 43·1	61 13·70	16 41·60	+0·649	− 0·121	− 2·35	+ 6·6	16 25 47·08	− 16 24 27·5	45·41	29·4
978	0 1 0·76	− 3 39 0·8	54 59·10	14 59·47	+0·479	+ 0·172	− 1·73	− 9·3	0 2 54·74	− 3 4 20·5	55·12	19·1
979	14 51 47·04	− 11 9 49·4	60 59·34	16 37·68	+0·612	− 0·183	− 2·23	+ 10·0	14 53 50·20	− 10 45 61·1	48·42	59·3
980	21 50 30·26	− 14 18 5·6	58 10·70	15 51·70	+0·570	+ 0·143	− 2·09	− 7·8	21 48 12·22	− 13 59 26·3	10·36	40·2
981	4 15 54·10	+ 16 23 30·7	54 8·82	14 45·76	+0·503	+ 0·103	− 1·83	− 5·7	4 18 40·64	+ 17 13 30·4	40·50	35·2
982	4 18 22·10	+ 16 31 5·8	54 9·14	14 45·85	+0·504	+ 0·102	− 1·83	− 5·6	4 18 40·64	+ 17 13 30·4	40·50	35·2
983	1 36 23·48	+ 4 38 22·0	55 3·79	15 0·74	+0·481	+ 0·172	− 1·76	− 9·5	1 36 33·91	+ 5 0 52·1	32·29	43·6
984	2 24 16·59	+ 8 46 7·5	54 36·17	14 53·22	+0·480	+ 0·158	− 1·76	− 8·6	2 24 35·49	+ 9 8 51·3	34·06	46·0
985	13 59 26·71	− 6 42 17·9	59 0·33	16 5·24	+0·557	− 0·193	− 2·03	+ 10·5	13 58 3·80	− 6 3 27·1	3·13	28·3*
986	1 11 47·81	+ 2 28 31·5	55 30·35	15 7·98	+0·489	+ 0·180	− 1·79	− 9·9	1 12 59·29	+ 3 7 24·2	56·96	10·8
987	17 36 46·50	− 19 38 46·8	59 15·17	16 9·29	+0·623	− 0·060	− 2·27	+ 3·3	17 35 35·45	− 19 28 51·4	33·98	57·2
988	17 36 50·96	− 19 38 53·2	59 15·14	16 9·28	+0·623	− 0·060	− 2·27	+ 3·3	17 35 46·28	− 19 24 20·3	44·81	26·2
989	17 38 17·92	− 19 40 58·2	59 14·67	16 9·15	+0·623	− 0·060	− 2·27	+ 3·2	17 36 52·49	− 19 21 13·9	51·02	19·8*
990	23 54 11·53	− 4 45 29·3	55 51·84	15 13·85	+0·496	+ 0·182	− 1·82	− 10·0	23 53 54·24	− 4 4 23·5	51·65	38·9
991	21 41 6·87	− 15 42 37·5	58 55·41	16 3·89	+0·588	+ 0·142	− 2·17	− 7·9	21 38 54·47	− 15 10 38·8	53·08	49·2
992	4 58 39·98	+ 18 50 38·5	53 57·74	14 42·74	+0·514	+ 0·082	− 1·89	− 4·5	4 59 63·44	+ 19 40 39·2	59·56	39·5
993	5 3 50·65	+ 19 2 47·6	53 57·83	14 42·76	+0·515	+ 0·079	− 1·89	− 4·3	5 3 21·43	+ 19 44 16·6	17·54	17·2

961. Mean R.A. and Dec. from Radcliffe 1890.
985. Mean R.A. and Dec. from Karlsruhe 1890.
989. ,, ,, ,, ,, Yarnall.

Digitized by Google

Digitized by Google

OCCULTATIONS OF STARS

OBSERVED AT THE

ROYAL OBSERVATORY, CAPE OF GOOD HOPE,

1896-1906.

RESULTING EQUATIONS.

Digitized by Google

EQUATIONS RESULTING FROM COMPARISON OF OBSERVED OCCULTATIONS WITH HANSEN'S TABLES OF THE MOON.

No.	Date.	Star.	Resulting Equations.									
			"									
1	1896 Jan. 7	*i* Virginis	−23·65	= +·958Δα	− ·190Δδ	−·948Δα′	+·186Δδ′	+·406ΔT	+·562Δl	+·009Δφ′	+1574·5*p*	− 962·2*s*
2	31	ρ Leonis	−20·17	= +·987	+ ·002	−·975	−·004	+·372	+·554	−·005	−1698·2	− 992·9
3	Mar. 8	*h* Sagittarii	−15·20	= +·836	− ·373	−·836	+·367	+·427	+·428	+·013	+1989·9	− 908·9
4	30	Piazzi XIV. 22	−23·20	= +·732	− ·638	−·720	+·630	+·421	+·593	+·009	−1265·4	− 993·4
5	30	C.G.A. 19332	−23·58	= +·938	− ·149	−·926	+·151	+·419	+·605	−·003	−1777·6	− 992·9
6	30	Lalande 26150.	−24·80	= +·910	− ·278	−·899	+·279	+·457	+·618	−·002	−2421·2	− 992·5
7	Apr. 7	μ Capricorni	−16·71	= +·880	+ ·419	−·874	−·418	+·415	+·499	+·002	+2947·3	− 891·2
8	16	φ Tauri	+15·45	= −·890	− ·109	+·883	+·113	−·406	−·514	+·009	−2123·6	− 904·3
9	19	Mayer 301	+11·79	= −·795	− ·464	+·786	+·466	−·284	−·429	+·011	+ 881·2	− 934·7
10	20	Lalande 16053	+15·66	= −·502	+ ·838	+·499	−·832	−·383	−·429	−·005	+3219·4	− 946·9
12	22	α Leonis	+20·78	= −·676	+ ·722	+·673	−·717	−·511	−·557	−·004	+3406·8	− 974·1
15	25	ψ Virginis	+24·53	= −·767	+ ·629	+·763	−·627	−·551	−·614	−·002	+3473·0	− 998·2
16	28	A Scorpii	−21·89	= +·898	− ·114	−·906	+·120	+·724	+·603	−·006	−2498·6	− 980·3
19	May 1	σ Sagittarii	+14·62	= −·529	− ·805	+·521	+·793	−·274	−·385	+·006	−2645·1	− 939·9
21	1	σ Sagittarii	− 9·07	= +·535	− ·800	−·535	+·789	+·270	+·269	+·016	+ 639·6	− 939·5
23	17	Lalande 15401	+17·28	= −·903	+ ·157	+·891	−·155	−·381	−·551	+·003	+1911·8	− 938·2
24	17	Lalande 15372	+14·28	= −·388	+ ·905	+·386	−·898	−·321	−·355	−·006	+3126·0	− 938·3
25	17	B.D. + 24° 1803	+18·46	= −·907	+ ·123	+·896	−·120	−·380	−·549	+·004	+1913·8	− 938·3
26	17	Lalande 15412	+21·71	= −·807	+ ·471	+·798	−·466	−·413	−·539	·000	+2746·8	− 938·4
27	18	W.B.(2)VIII. 1064	+16·03	= −·922	− ·194	+·909	+·193	−·284	−·483	+·005	+ 398·7	− 947·6
28	18	Piazzi VIII. 195	+ 7·98	= −·735	− ·626	+·726	+·624	−·149	−·291	+·012	+ 106·7	− 948·3
29	20	ρ Leonis	+17·15	= −·506	+ ·859	+·499	−·852	−·391	−·492	−·014	+1007·0	− 965·1
30	24	Piazzi XIV. 22.	+20·96	= −·924	+ ·238	+·910	−·233	−·397	−·607	−·004	+ 353·9	− 985·7
32	24	C.G.A. 19332	+20·43	= −·706	+ ·669	+·695	−·659	−·407	−·574	−·009	+1481·1	− 985·6
34	26	α Scorpii	+15·68	= −·713	− ·602	+·710	+·592	−·372	−·422	+·016	+1346·5	− 973·2
36	26	α Scorpii	−19·78	= +·725	− ·584	−·717	+·586	+·417	+·530	+·001	−3022·9	− 972·9
39	28	Lacaille 7659	−20·48	= +·885	+ ·058	−·886	−·063	+·600	+·575	+·009	+2989·6	− 954·5
41	June 19	ψ Virginis	+16·99	= −·465	+ ·882	+·460	−·869	−·407	−·483	−·016	+ 734·7	− 972·3
42	22	A Scorpii	+21·29	= −·876	+ ·255	+·862	−·248	−·385	−·591	−·005	− 11·3	− 968·0
43	July 16	Lalande 23696	+22·34	= −·726	+ ·679	+·716	−·670	−·418	−·570	−·007	+2000·5	− 971·5
44	31	ι Arietis	−13·63	= +·958	+ ·019	−·946	−·018	+·284	+·460	+·004	+1278·6	− 888·5
45	Aug. 12	Lalande 23370	+21·15	= −·992	+ ·035	+·988	−·036	−·485	−·551	+·009	+2911·8	− 983·0
46	12	Lalande 23372	+13·07	= −·891	− ·442	+·888	+·438	−·317	−·364	+·015	+1738·1	− 983·0
47	15	O.A. 14441	+18·72	= −·556	+ ·796	+·546	−·787	−·327	−·464	−·008	+2075·4	− 963·2
48	20	4 Capricorni	+19·04	= −·887	− ·282	+·874	+·142	−·245	−·445	·000	− 728·3	− 919·1
49	Sept. 5	α Leonis	+11·81	= −·833	− ·525	+·821	+·519	−·144	−·331	+·008	− 894·9	− 983·8
50	5	α Leonis	−11·16	= −·273	− ·960	+·268	+·950	+·171	+·100	+·012	−2024·7	− 984·0
51	10	B.D. −16° 3770	+17·18	= −·348	+ ·931	+·342	−·924	−·337	−·427	−·011	+2347·3	− 989·2
52	10	O.A. 13274	+13·52	= −·143	+ ·989	+·138	−·980	−·249	−·318	−·014	+1907·0	− 989·2
53	10	B.D. − 16° 3778	+13·56	= −·794	− ·555	+·794	+·550	−·336	−·343	+·020	+1485·4	− 988·8
54	10	B.D. − 16° 3776	+21·07	= −·954	− ·054	+·950	+·051	−·496	−·556	+·010	+2793·6	− 988·9
55	10	B.D. − 16° 3780	+23·77	= −·944	+ ·152	+·940	−·154	−·545	−·599	+·007	+3180·9	− 988·8
56	11	Lalande 27229	+20·80	= −·593	+ ·768	+·585	−·762	−·380	−·507	−·006	+2598·6	− 979·3
57	12	Mayer 646	+22·76	= −·856	+ ·308	+·849	−·309	−·470	−·582	+·004	+2917·4	− 966·9
58	15	Lacaille 8003	+21·20	= −·873	− ·234	+·862	+·229	−·376	−·542	+·008	+1501·7	− 930·0
59	15	C.Z. XIX. 19	+19·02	= −·784	− ·487	+·776	+·479	−·382	−·513	+·012	+1002·2	− 929·9
60	18	42 Capricorni	+16·75	= −·948	− ·195	+·937	+·196	−·340	−·502	−·002	−1861·1	− 903·1
62	18	Mayer 932	+ 9·62	= −·542	+ ·830	+·536	−·824	+·007	−·082	−·007	+2592·0	− 901·1
63	Oct. 9	O.A. 14696	+22·69	= −·903	− ·126	+·900	+·121	−·526	−·575	+·011	+2688·3	− 988·1
64	9	C.Z. XV. 2064	+24·25	= −·892	+ ·199	+·888	−·201	−·544	−·614	+·006	+3170·4	− 988·0

Digitized by Google

No.	Date.	Star.	Resulting Equations.								
			"								
65	1896 Oct. 9	C.Z. XV. 2089....	+22·83 = −·730Δα	+ ·597Δδ	+·725Δα′	−·597Δδ′	−·480ΔT	−·564Δl	−·001Δφ′	+3338·7p	− 987·9s
66	9	C.G.A. 21184.....	+13·07 = −·274	+ ·954	+·268	−·951	−·226	−·313	−·010	+1685·8	− 987·6
67	9	α Scorpii.....	+21·56 = −·865	− ·258	+·853	+·260	−·366	−·553	−·001	−1797·4	− 978·6
69	10	α Scorpii.....	−17·56 = +·587	− ·754	−·580	+·741	+·340	+·454	+·015	+ 192·6	− 978·0
71	10	Lacaille 6957	+22·38 = −·885	− ·116	+·882	+·111	−·539	−·581	+·011	+2693·7	− 974·2
72	12	C.Z. XVIII. 2254.	+20·01 = −·875	+ ·205	+·862	−·203	−·339	−·527	+·001	+1497·5	− 944·9
73	12	O.A. 18652.....	+19·20 = −·738	− ·563	+·730	+·553	−·374	−·501	+·013	+ 841·4	− 944·9
74	12	C.G.A. 25680.....	+ 6·66 = +·008	−1·000	−·004	+·987	−·140	−·074	+·015	− 823·3	− 944·3
75	12	C.Z. XVIII. 2330.	+17·76 = −·670	− ·662	+·666	+·651	−·399	−·467	+·015	+ 983·4	− 944·2
76	12	C.G.A. 25709.....	+ 9·90 = −·484	+ ·841	+·475	−·833	−·096	−·233	−·009	+1898·8	− 944·1
77	12	C.P.D. 26° 6563...	+ 8·65 = −·297	− ·943	+·298	+·930	−·280	− 258	+·017	− 124·7	− 944·0
78	12	C.Z. XVIII. 2384.	+17·80 = −·644	− ·694	+·641	+·683	−·414	−·454	+·016	− 998·0	− 943·9
79	12	C.Z. XVIII. 2438.	+22·47 = −·887	− ·136	+·881	+·131	−·465	−·558	+·010	+2329·8	− 943·6
80	13	C.Z. XIX. 1636....	+19·57 = −·907	− ·113	+·895	+·111	−·352	−·536	+·005	+1088·3	− 930·3
81	13	C.Z. XIX. 1681 ...	+19·17 = −·833	− ·412	+·824	+·405	−·397	−·534	+·011	+1128·8	− 929·9
82	13	C.Z. XIX. 1736 ...	+16·51 = −·582	− ·771	+·579	+·760	−·397	−·438	+·016	+ 586·3	− 929·4
83	24	Lalande 8396	−16·75 = +·871	+ ·232	−·859	−·231	+·324	+·500	+·001	+1494·2	− 892·6
84	Nov. 8	C.Z. XVIII. 1016.	+15·86 = −·572	− ·767	+·572	+·757	−·430	−·416	+·017	+ 792·4	− 965·0
85	8	Lalande 33830.....	+21·54 = −·791	− ·461	+·789	+·453	−·509	−·543	+·014	+1839·7	− 965·0
86	8	C.Z. XVIII. 1071.	+24·08 = −·874	− ·194	+·871	+·188	−·527	−·582	+·011	+2461·4	− 964·9
87	8	O.A. 18220.....	+17·92 = −·739	+ ·559	+·734	−·560	−·375	−·447	−·001	+3336·1	− 964·2
88	9	48 Sagittarii.....	+18·69 = −·869	+ ·289	+·859	−·289	−·354	−·496	+·003	+2526·1	− 949·1
89	9	χ Sagittarii.....	+10·26 = −·631	+ ·718	+·622	−·713	−·163	−·300	−·005	+2406·1	− 949·0
91	9	χ Sagittarii.....	− 4·16 = −·020	+1·000	+·015	−·990	+·187	+·109	−·014	+1211·2	− 948·8
92	9	49 Sagittarii.....	+ 6·19 = −·095	− ·994	+·099	+·984	−·245	−·178	+·015	− 919·7	− 948·7
94	9	Lalande 36618.....	+18·92 = −·804	− ·464	+·802	+·457	−·505	−·544	+·014	+1753·7	− 948·5
96	10	O.A. 20454.....	+16·18 = −·932	− ·021	+·924	+·019	−·407	−·523	+·008	+2318·7	− 932·9
97	Dec. 10	Lalande 43974.....	+ 9·08 = −·081	− ·997	+·081	+·989	−·279	−·267	+·014	−1458·6	− 908·8
98	10	Lalande 44019.....	+16·64 = −·559	− ·826	+·557	+·820	−·425	−·452	+·016	+ 31·8	− 908·5
99	12	Lalande 47005.....	+14·32 = −·996	+ ·071	+·984	−·070	−·255	−·425	+·004	+1267·9	− 891·6
100	21	Piazzi VII. 182....	−20·10 = +·798	− ·493	−·786	+·486	+·351	+·521	+·003	+1071·4	− 924·3
101	1897 Jan. 8	Lalande 46406.....	+16·29 = −·816	− ·578	+·808	+·574	−·396	−·504	+·013	+2808·8	− 900·2
102	14	Lalande 8396	+14·84 = −·845	+ ·329	+·834	−·327	−·287	−·455	·000	+1724·7	− 898·7
104	17	A Geminorum.....	+13·10 = −·252	+ ·961	+·250	−·953	−·232	−·258	−·007	+2991·7	− 927·6
105	23	χ Virginis.....	− 8·22 = −·181	− ·983	+·178	+·971	+·207	+·159	+·014	−1936·1	− 967·1
106	27	α Scorpii.....	+10·31 = −·270	+ ·954	+·275	−·946	−·332	−·251	−·016	+ 616·8	− 965·1
110	27	α Scorpii.....	−14·59 = +·733	+ ·574	−·726	−·574	+·332	+·432	·000	+1492·8	− 965·1
112	Feb. 9	B.D. + 23° 423...	+13·95 = −·896	− ·226	+·885	+·226	−·325	−·493	+·007	+ 989·6	− 888·2
113	13	39 Geminorum	+ 7·58 = −·122	+ ·991	+·125	−·985	−·205	−·163	−·008	+2833·1	− 923·0
115	18	79 Leonis.....	−21·17 = +·981	− ·191	−·972	+·190	+·436	+·577	+·010	−2571·4	− 975·2
116	22	Lalande 27453.....	−14·92 = +·330	− ·934	−·334	+·927	+·418	+·360	+·016	− 483·8	− 972·6
118	22	B.D. − 21° 4028.	−18·92 = +·884	+ ·294	−·879	−·296	+·429	+·495	+·005	+3243·5	− 972·5
119	23	α Scorpii.....	−27·27 = +·893	− ·039	−·890	+·048	+·525	+·581	−·009	−2909·8	− 963·2
121	Mar. 9	Lalande 6897	+ 8·60 = −·586	+ ·764	+·583	−·758	−·181	−·234	−·003	+3070·0	− 886·9
122	9	W.B. (2) III. 836.	+12·64 = −·675	− ·669	+·666	+·668	−·286	−·427	+·011	− 208·0	− 886·9
123	9	W.B. (2) III. 850.	+15·60 = −·901	− ·119	+·892	+·122	−·353	−·492	+·008	+1708·8	− 886·9
125	9	Lalande 6940	+ 7·84 = −·540	+ ·803	+·539	−·798	−·196	−·207	−·003	+3165·2	− 887·0
126	Apr. 8	B.D. + 27° 1000.	+ 7·35 = −·564	− ·774	+·555	+·770	−·147	−·291	+·008	−1517·3	− 897·1
127	8	B.D. + 27° 1002.	+13·49 = −·596	+ ·744	+·590	−·738	−·269	−·362	−·003	+2794·3	− 897·1
128	8	Cape 1900 4371...	+ 4·62 = −·402	− ·893	+·394	+·888	−·076	−·195	+·009	−1987·8	− 897·1

96. Identified by observer as O.A. 20461.
121. ,, ,, ,, ,, B.D. +25° 610.

Digitized by Google

No.	Date.	Star.	Resulting Equations.
			"
129	1897 Apr. 8	B.D. + 27° 1013..	+ 8·15 = −·173Δα + ·981Δδ + ·176Δα′ −·977Δδ′ −·189ΔT −·137Δl −·008Δφ′ +2717·5p − 897·9s
130	8	Lalande 11757.....	+13·89 = −·840 − ·339 +·832 +·342 −·338 −·459 +·011 +1449·2 − 898·0
131	11	Mayer 387.....	+17·13 = −·869 + ·400 +·856 −·398 −·351 −·545 −·006 + 626·9 − 932·8
133	14	79 Leonis.....	+21·21 = −·814 + ·580 +·808 −·576 −·498 −·596 −·015 − 856·5 − 978·6
134	18	Mayer 611	−18·03 = +·484 − ·851 −·487 +·843 +·505 +·460 +·017 + 171·8 −1001·2
136	19	σ Scorpii.....	−21·37 = +·882 + ·201 −·881 −·205 +·572 +·586 +·007 +3347·6 − 993·9
137	May 5	B.D. + 27° 897 ...	+13·93 = −·785 − ·475 +·776 +·476 −·284 −·430 +·010 + 665·2 − 891·1
139	5	136 Tauri	+14·53 = −·793 − ·460 +·783 +·461 −·289 −·434 +·010 + 761·8 − 891·2
141	5	W.B. (2) V. 1472..	+15·38 = −·878 − ·178 +·870 +·180 −·358 −·489 +·008 +1709·4 − 891·2
142	7	B. D. + 23° 1795.	+18·61 = −·693 + ·658 +·689 −·653 −·405 −·462 −·001 +3178·1 − 907·3
143	7	B.D. + 23° 1801..	+14·38 = −·903 − ·194 +·896 +·197 −·355 −·466 +·010 +1931·0 − 907·5
144	9	Lalande 18579.....	+ 9·66 = −·853 − ·471 +·843 +·469 −·186 −·341 +·011 + 490·0 − 931·5
145	10	Lalande 19909.....	+19·65 = −·261 + ·964 +·259 −·953 −·322 −·365 −·011 +2516·3 − 945·5
147	19	Mayer 794.....	−18·41 = +·718 + ·613 −·712 −·611 +·436 +·534 −·001 +3152·8 − 973·7
148	June 3	B.D. + 24° 1659..	+15·92 = −·529 + ·816 +·529 −·812 −·379 −·383 −·004 +3204·4 − 902·4
149	5	W.B.(2)VIII.1499	+18·96 = −·917 + ·296 +·906 −·293 −·361 −·530 +·001 +1908·8 − 919·6
150	6	Lalande 19515.....	+21·93 = −·740 + ·657 +·731 −·650 −·392 −·521 −·005 +2457·1 − 930·7
151	8	B.D. − 0° 2460....	+19·76 = −·992 + ·122 +·978 −·121 −·333 −·539 ·000 + 830·1 − 955·7
152	8	Lalande 22052.....	+16·05 = −·996 − ·089 +·983 +·087 −·289 −·486 +·004 + 777·9 − 955·9
153	8	W.B. XI. 520.....	+16·56 = −·302 + ·953 +·298 −·941 −·341 −·401 −·012 +2150·8 − 956·1
154	8	W.B. XI. 531.....	+18·29 = −·285 + ·958 +·282 −·946 −·340 −·394 −·012 +2226·8 − 956·3
155	9	Lalande 23259.....	+17·20 = −·521 + ·851 +·514 −·838 −·393 −·497 −·014 +1014·0 − 967·9
157	11	C.G.A. 19332.....	+20·23 = −·908 + ·291 +·899 −·283 −·485 −·615 −·011 −1708·6 − 989·3
158	11	O.A. 13514.....	+19·30 = −·931 − ·195 +·920 +·197 −·364 −·528 −·003 −2285·6 − 989·4
159	11	Lalande 26150.....	+20·39 = −·947 − ·035 +·935 +·039 −·386 −·571 −·005 −1691·3 − 989·6
160	15	Lacaille 7842	− 6·73 = +·481 − ·846 −·481 +·834 +·256 +·251 +·017 + 405·1 − 986·7
162	July 2	Mayer 394.....	+17·08 = −·513 + ·844 +·511 −·838 −·407 −·428 −·005 +3143·2 − 918·7
163	2	B.D. + 17° 1975..	+20·23 = −·908 + ·311 +·902 −·308 −·447 −·532 +·004 +1558·2 − 918·7
164	2	Mayer 397.....	+19·51 = −·881 + ·387 +·878 −·384 −·481 −·533 +·003 +3180·8 − 919·0
165	3	18 Leonis	+10·89 = −·069 + ·997 +·072 −·993 −·289 −·258 −·012 +2302·1 − 927·6
167	3	W.B. IX. 846.....	+18·94 = −·375 + ·924 +·375 −·919 −·394 −·396 −·008 +2924·5 − 927·6
169	4	Lalande 20454.....	+19·07 = −·958 + ·265 +·947 −·262 −·379 −·541 +·002 +2108·6 − 936·0
170	5	B.D. + 1° 2557...	+15·54 = −·964 − ·265 +·953 +·262 −·253 −·416 +·009 +1126·2 − 945·6
171	5	Cape 1900 1543...	+17·91 = −·450 + ·893 +·445 −·883 −·377 −·452 −·010 +2534·0 − 945·6
172	5	Piazzi XI. 50.....	+17·35 = −·554 + ·833 +·548 −·824 −·399 −·489 −·008 +2630·5 − 945·6
173	6	Lalande 22861.....	+17·66 = −·269 + ·963 +·265 −·949 −·323 −·383 −·013 +1847·0 − 954·7
174	10	Lacaille 6621	+16·81 = −·765 − ·536 +·754 +·534 −·283 −·447 +·003 −2284·2 − 984·0
175	12	λ Sagittarii.....	+12·83 = −·417 − ·885 +·418 +·873 −·359 −·347 +·017 + 200·9 − 982·5
176	Aug. 2	W.B. XI. 910.....	+21·44 = −·931 + ·358 +·923 −·356 −·460 −·571 −·002 +2931·3 − 954·2
177	2	B.D. − 3° 3219...	+20·19 = −·924 + ·376 +·916 −·374 −·464 −·572 +·002 +2961·3 − 954·2
178	2	B.D. − 3° 3220...	+16·64 = −·992 − ·096 +·986 +·095 −·386 −·486 +·009 +2343·2 − 954·2
179	4	B.D. − 15° 3728...	+17·76 = −·919 − ·296 +·907 +·291 −·273 −·453 +·008 + 818·8 − 965·0
180	4	83 Virginis	+21·50 = −·955 + ·113 +·943 −·112 −·379 −·564 +·003 +1646·9 − 965·1
181	5	Mayer 596.....	+15·39 = −·802 − ·510 +·798 +·502 −·339 −·398 +·015 +1523·4 − 969·5
182	5	B.D. − 20° 4089..	+13·67 = −·813 − ·488 +·810 +·480 −·358 −·411 +·015 +1382·4 − 969·5
183	5	B.D. − 20° 4088..	+12·72 = −·681 − ·683 +·679 +·674 −·270 −·297 +·016 + 986·4 − 969·5
184	5	Mayer 597.....	+20·77 = −·926 − ·114 +·920 +·109 −·463 −·542 +·010 +2520·5 − 969·5
185	7	Lacaille 6975.....	+20·45 = −·752 + ·543 +·741 −·531 −·354 −·526 −·010 − 152·9 − 972·6
186	7	Lalande 30556.....	+19·36 = −·710 + ·607 +·699 −·599 −·320 −·499 −·006 +1454·0 − 973·0
187	7	C.Z. XVI. 3187 ...	+14·91 = −·592 + ·749 +·582 −·743 −·278 −·422 −·007 +2173·9 − 973·0

129. Identified by observer as W.B. (2) VI. 94.

Digitized by Google

No.	Date.	Star.	Resulting Equations.									
			"									
188	1897 Aug. 8	C.Z. XVIII. 2990.	+11·82	= −·490Δα	+ ·836Δδ	+·483Δα′	−·820Δδ′	−·203ΔT	−·304Δl	−·015Δφ′	+ 63·4p	− 972·28
189	12	λ Capricorni.....	−21·85	= +·841	− ·508	−·835	+·501	+·232	+·328	+·014	+1173·5	− 946·7
190	Sept. 2	Cor. D.−23°12320	+23·57	= −·870	+ ·310	+·860	−·310	−·443	−·591	+·002	+2546·7	− 971·8
191	2	C.P.D. − 23° 6191	+18·52	= −·857	− ·351	+·851	+·344	−·400	−·496	+·012	+1842·5	− 971·8
192	2	C.P.D. − 23° 6188	+27·70	= −·251	+ ·962	+·244	−·952	−·187	−·285	−·012	+1779·2	− 971·8
193	2	Lalande 28187.....	+15·80	= −·532	+ ·814	+·523	−·808	−·321	−·442	−·007	+2527·2	− 971·7
194	2	C.P.D. − 23° 6193	+11·37	= −·229	+ ·968	+·222	−·960	−·171	−·269	−·012	+1894·0	− 971·7
195	2	C.P.D. − 23° 6199	+20·07	= −·656	+ ·697	+·648	−·693	−·383	−·505	−·004	+2798·4	− 971·7
196	2	Lalande 28222.....	+11·23	= −·623	− ·732	+·624	+·723	−·307	−·301	+·016	+ 874·1	− 971·7
197	2	Lacaille 6414.....	+22·74	= −·913	+ ·049	+·909	−·052	−·521	−·584	+·008	+2922·7	− 971·7
198	2	Lalande 28259.....	+21·77	= −·898	+ ·183	+·894	−·186	−·528	−·592	+·007	+3111·4	− 971·7
199	3	C.G.A. 22365.....	+20·44	= −·831	− ·378	+·823	+·371	−·389	−·519	+·012	+1463·3	− 969·6
200	5	O.A. 15698.....	+22·91	= −·895	− ·129	+·888	+·124	−·474	−·581	+·010	+2284·9	− 960·8
202	8	Piazzi XXI. 125...	+20·08	= −·768	− ·609	+·759	+·608	−·413	−·542	+·002	−2618·2	− 942·4
203	8	Piazzi XXI. 128...	+18·67	= −·968	− ·008	+·958	+·011	−·376	−·519	−·007	−2108·2	− 942·3
204	9	ρ Aquarii	+14·29	= −·955	+ ·257	+·945	−·252	−·261	−·421	−·009	−1192·9	− 933·6
206	9	Piazzi XXII. 81 ...	+13·54	= −·940	+ ·314	+·927	−·309	−·199	−·396	−·004	+ 709·0	− 932·6
208	13	η Piscium	+12·19	= −·917	+ ·325	+·905	−·324	−·203	−·380	−·007	− 353·0	− 898·6
210	13	η Piscium	− 5·00	= −·029	+ ·999	+·028	−·989	+·202	+·183	−·011	+2426·2	− 898·4
211	14	θ Arietis.....	−15·61	= +·947	− ·027	−·935	+·027	+·292	+·468	+·004	+1209·4	− 892·3
213	18	136 Tauri	− 6·52	= +·236	− ·964	−·232	+·957	+·085	+·155	+·008	−2634·4	− 891·8
214	29	B.D. − 22° 3902..	+15·22	= −·398	+ ·903	+·391	−·896	−·288	−·395	−·010	+2359·4	− 984·7
215	29	O.A. 14293.....	+19·41	= −·882	− ·297	+·879	+·291	−·462	−·519	+·013	+2220·3	− 984·7
216	29	O.A. 14294...	+ 0·12	= −·288	− ·950	+·291	+·941	−·090	−·039	+·017	− 543·3	− 984·6
217	29	B.D. − 22° 3908...	+20·44	= −·613	+ ·748	+·607	−·745	−·412	−·507	−·004	+3103·0	− 984·6
218	30	C.Z. XVI. 260.....	+ 8·32	= −·479	− ·848	+·477	+·835	−·220	−·242	+·017	+ 328·8	− 980·7
219	30	C.Z. XV. 333.....	+23·08	= −·871	+ ·265	+·861	−·265	−·448	−·600	+·003	+2461·3	− 980·7
220	30	C.Z. XVI. 509.....	+22·30	= −·864	+ ·288	+·858	−·288	−·496	−·597	+·004	+3033·8	− 980·4
221	30	Mayer 656	+21·32	= −·812	+ ·437	+·805	−·437	−·470	−·574	+·002	+3113·9	− 980·4
222	30	C.Z. XVI. 526.....	+22·90	= −·827	+ ·400	+·821	−·400	−·479	−·581	+·002	+3113·8	− 980·4
223	Oct. 1	A Ophiuchi (N*)...	+22·63	= −·871	+ ·228	+·858	−·225	−·380	−·583	·000	+1286·4	− 974·5
224	1	A Ophiuchi (S*)...	+21·79	= −·870	+ ·232	+·857	−·229	−·380	−·583	·000	+1285·0	− 974·5
225	2	C.Z. XVIII. 885..	+ 5·66	= −·181	− ·980	+·181	+·964	−·187	−·177	+·017	− 370·1	− 965·9
226	2	C.P.D. − 25° 6507	+20·59	= −·894	+ ·118	+·886	−·120	−·447	−·569	+·006	+2617·5	− 965·2
227	2	Cor. D.−25° 13101	+ 8·13	= −·285	− ·949	+·288	+·937	−·288	−·246	+·017	− 275·7	− 965·2
228	2	Cor. D.−25° 13109	+ 8·74	= −·343	− ·925	+·346	+·914	−·325	−·285	+·017	− 114·4	− 965·1
229	2	C.P.D. − 25° 6515	+20·68	= −·867	+ ·268	+·860	−·269	−·432	−·540	+·004	+2888·6	− 965·1
230	2	C.P.D. − 25° 6516	+21·04	= −·897	+ ·088	+·891	−·091	−·477	−·572	+·007	+2779·3	− 965·0
231	3	C.P.D. − 23° 7453	+18·85	= −·827	+ ·429	+·814	−·421	−·257	−·454	−·005	+ 766·0	− 957·1
232	3	C.G.A. 26565.....	+20·77	= −·720	− ·618	+·712	+·607	−·386	−·518	+·013	+ 466·0	− 956·8
233	3	C.Z. XIX. 744	+22·08	= −·912	− ·091	+·900	+·089	−·383	−·570	+·006	+1201·7	− 956·7
234	3	C.G.A. 26590.....	+20·83	= −·857	− ·355	+·847	+·348	−·414	−·569	+·010	+1134·0	− 956·6
235	3	C.P.D. 23° 7475...	+20·02	= −·896	+ ·214	+·884	−·212	−·338	−·519	+·002	+1848·6	− 956·5
236	5	Lalande 41138.....	+18·49	= −·597	− ·784	+·588	+·773	−·347	−·481	+·011	−1254·2	− 938·7
238	8	16 Piscium	+12·53	= −·239	− ·971	+·238	+·963	−·319	−·342	+·011	−2384·7	− 913·7
239	28	Lacaille 7070.....	+16·30	= −·619	+ ·724	+·614	−·725	−·382	−·450	−·003	+3410·1	− 992·1
240	31	B.D. − 20° 5814..	+20·80	= −·935	+ ·007	+·925	−·009	−·394	−·552	+·006	+1968·9	− 958·7
241	31	B.D. − 20° 5812..	+19·29	= −·638	− ·731	+·634	+·720	−·430	−·498	+·016	+ 584·2	− 958·6
242	Nov. 1	Lalande 40724.....	+ 3·84	= +·113	− ·993	−·109	+·984	−·197	−·140	+·014	−1736·1	− 944·7
243	4	B.D. + 0° 4996...	+18·43	= −·765	− ·644	+·755	+·635	−·355	−·510	+·009	−1137·1	− 912·6

202. Identified by observer as Lalande 41705.
227. ,, ,, ,, ,, Cor. D. − 25° 13098.

Digitized by Google

No.	Date.	Star.	Resulting Equations.								
			"								
244	1897 Nov. 4	κ Piscium.....	+17·88 = −·841Δα	− ·540Δδ	+·830Δα	+·533Δδ′	−·348ΔT	−·520Δl	+·008Δφ′	− 788·7p	− 912·5s
246	4	9 Piscium.....	+14·24 = −·991	+ ·135	+·978	−·133	−·235	−·433	−·001	+ 632·6	− 912·4
247	26	C.P.D. − 24°6482	+17·88 = −·546	− ·798	+·550	+·790	−·492	−·443	+·017	+ 499·6	− 992·8
248	26	O.A. 18524.....	+15·60 = −·437	− ·876	+·441	+·869	−·437	−·375	+·017	− 8·2	− 992·7
249	26	C.Z. XVIII. 1972.	+21·51 = −·887	+ ·211	+·884	−·214	−·539	−·580	+·007	+2569·8	− 992·7
250	26	C.P.D. 24° 6485...	+14·08 = −·383	− ·907	+·387	+·900	−·416	−·344	+·016	− 291·4	− 992·6
251	26	Lalande 34586.....	+23·02 = −·887	+ ·208	+·885	−·212	−·544	−·580	+·007	+3315·6	− 992 6
252	26	C.Z. XVIII. 2042.	+20·00 = −·826	+ ·414	+·824	−·417	−·491	−·520	+·003	+3535·5	− 992·4
253	26	Lalande 34627.....	+17·72 = −·535	− ·808	+·541	+·802	−·518	−·438	+·016	+ 236·8	− 992·4
254	28	B.D. − 17° 6062..	+22·33 = −·935	− ·198	+·928	+·194	−·673	−·578	+·011	+2214·7	− 965·2
255	28	B.D. − 17° 6065..	+15·97 = −·881	+ ·384	+·873	−·383	−·321	−·432	+·002	+2980·3	− 965·1
256	28	O.A. 20783.....	+16·35 = −·895	+ ·345	+·889	−·345	−·349	−·448	+·003	+3060·4	− 964·9
257	28	B.D. − 17° 6068..	+21·15 = −·949	+ ·104	+·943	−·106	−·441	−·527	+·007	+2879·3	− 964·8
258	28	O.A. 20804.....	+22·17 = −·745	− ·625	+·744	+·619	−·546	−·553	+·016	+1184·4	− 964·5
259	29	Lalande 42005.....	+17·46 = −·961	+ ·176	+·950	−·175	−·306	−·473	+·003	+2038·9	− 950·1
260	29	B.D. − 12° 6040..	+17·34 = −·951	+ ·230	+·942	−·229	−·320	−·454	+·004	+2556·5	− 949·6
261	29	Lalande 42059.....	+19·32 = −·927	− ·314	+·920	+·309	−·454	−·564	+·012	+1713·8	− 949·5
262	29	Lalande 42073.....	+17·87 = −·976	+ ·042	+·968	−·043	−·391	−·510	+·007	+2447·3	− 949·4
263	29	B.D. − 11° 5632..	+12·47 = −·198	− ·979	+·199	+·971	−·342	−·324	+·016	−1078·7	− 949·0
264	30	...	See note on page 12E.								
265	Dec. 1	Lalande 45420.....	+20·64 = −·548	− ·837	+·541	+·827	−·360	−·458	+·014	− 836·8	− 921·3
266	2	Lalande 47048.....	+11·75 = −·253	− ·967	+·249	+·958	−·284	−·337	+·014	−1587·5	− 909·2
267	4	W.B. I. 405	+ 9·88 = −·802	+ ·561	+·791	−·555	−·122	−·280	−·005	−1705·3	− 892·8
271	5	θ Arietis	+14·42 = −·721	− ·649	+ 712	+·641	−·331	−·462	+·004	−2322·7	− 887·9
272	13	π Cancri.....	−16·04 = +·965	− ·068	−·953	+·067	+·304	+·489	+·004	+ 919·9	− 904·8
273	19	C.G.A. 19332.....	−22·12 = +·944	− ·088	−·938	+·085	+·496	+·588	+·010	+2543·4	− 981·1
274	19	O.A. 13514.....	−23·65 = +·827	− ·490	−·823	+·483	+·535	+·595	+·015	+1600·2	− 981·1
275	26	W.B. XXI. 101 ...	+18·05 = −·922	+ ·305	+·918	−·305	−·387	−·455	+·004	+3243·3	− 971·0
276	26	Lalande 41246.....	+23·47 = −·829	− ·518	+·831	+·514	−·609	−·586	+·015	+1549·4	− 970·3
278	26	W.B. XXI. 157....	+14·70 = −·854	+ ·473	+·852	−·474	−·351	−·378	+·002	+3504·6	− 970·3
279	28	B.D. − 2° 5856...	+18 04 = −·999	− ·001	+·992	·000	−·397	−·497	+·008	+2512·4	− 938·9
280	28	Lalande 44904.....	+19·54 = −·637	− ·770	+·635	+·767	−·476	−·503	+·016	+ 318·1	− 938·3
281	30	W.B. 0. 351.....	+ 9·13 = −·042	− ·999	+·040	+·990	−·214	−·240	+·012	−2127·2	− 911·3
282	30	Lalande 661	+14·13 = −·360	− ·931	+·355	+·923	−·300	−·377	+·014	−1385·0	− 911·2
283	1898 Jan. 3	Lalande 6915.....	+13·65 = −·736	− ·590	+·725	+·586	−·276	−·443	+·007	−1053·3	− 884·1
284	10	18 Leonis.....	−19·25 = +·799	− ·579	−·790	+·576	+·387	+·513	+·012	+ 431·8	− 910·4
288	10	19 Leonis.....	−16·80 = +·940	− ·285	−·929	+·283	+·355	+·519	+·008	+ 911·1	− 910·7
289	12	Piazzi XI. 50.....	−20·49 = +·770	− ·638	−·761	+·631	+·394	+·527	+·013	− 1·9	− 928·3
290	16	Piazzi XIV. 212 (*pr.*)	− 5·97 = +·066	− ·997	−·069	+·984	+·234	+·198	+·016	+ 887·2	− 971·6
291	16	Piazzi XIV. 212 (*seq.*)	− 8·48 = +·067	− ·997	−·069	+·984	+·235	+·199	+·016	− 884·4	− 971·6
292	28	3 Arietis.....	+17·07 = −·959	− ·040	+·949	+·040	−·322	−·484	+·006	+1506·7	− 903·1
293	31	...	See note on page 12E.								
294	Feb. 8	p^4 Leonis	− 8·53 = +·853	+ ·522	−·844	−·516	+·170	+·293	−·002	+2732·2	− 929·6
295	13	C.Z. XV. 2179.....	−23·61 = +·901	+ ·175	−·889	−·174	+·360	+·547	+·002	+1666·0	− 966·3
296	13	C.G.A. 21222.....	−22·45 = +·629	− ·726	−·623	+·714	+·380	+·478	+·015	+ 443·9	− 966·3
297	13	C.G.A. 21216.....	−23·73 = +·799	− ·488	−·789	+·480	+·413	+·558	+·012	+ 874·5	− 966·3
298	13	42 Libræ.....	−22·77 = +·726	− ·609	−·717	+·598	+·393	+·525	+·013	+ 513·0	− 966·4
299	13	C.P.D. 23° 6242...	−16·43 = +·740	+ ·588	−·728	−·580	+·220	+·399	−·007	+1388·4	− 966·4
300	13	O.A. 14754.....	−25·76 = +·788	− ·508	−·777	+·500	+·393	+·553	+·011	+ 536·9	− 966·5
301	25	θ Arietis	+17·00 = −·944	+ ·073	+·939	−·070	−·397	−·473	+·007	+2662·9	− 903·4

250. S. T. increased 1^m; original s—S = −10″·77.

Digitized by Google

No.	Date.	Star.	Resulting Equations.								
			"								
303	1898 Feb. 28	W.B. (2) IV. 986.	+17·04 = −·884Δα	+ ·185Δδ	+·873Δα′	−·184Δδ′	−·311ΔT	−·478Δl	+·002Δφ′	+1674·1p	− 887·38
304	28	B.D. + 26° 762...	+16·15 = −·888	+ ·158	+·879	−·155	−·346	−·482	+·005	+2180·5	− 887·3
305	Mar. 1	W.B. (2) V. 1202..	+16·76 = −·895	+ ·088	+·882	−·089	−·299	−·493	·000	+ 497·8	− 887·5
306	1	B.D. + 26° 950...	+ 5·52 = −·299	− ·943	+·293	+·938	−·045	−·142	+·009	−2154·2	− 887·6
307	1	B.D. + 26° 955...	+ 9·48 = −·630	− ·714	+·619	+·711	−·177	−·329	+·009	− 967·1	− 887·6
308	2	Lalande 12766.....	+14·14 = −·729	+ ·596	+·721	−·591	−·309	−·440	−·002	+2400·9	− 890·7
309	2	Lalande 12816.....	+13·14 = −·854	− ·341	+·842	+·341	−·264	−·437	+·007	+ 443·0	− 890·8
310	2	ε Geminorum.....	+17·80 = −·831	+ ·406	+·824	−·402	−·388	−·482	+·002	+2842·0	− 891·1
313	3	B.D. + 23° 1736..	+ 7·77 = −·193	+ ·978	+·190	−·970	−·173	−·216	−·009	+2679·5	− 896·1
315	3	W.B. (2) VII. 704	+14·10 = −·658	+ ·702	+·649	−·697	−·298	−·433	−·005	+2172·9	− 896·3
316	3	B.D.+23°1744(S*)	+13·62 = −·650	+ ·711	+·641	−·705	−·296	−·430	−·005	+2197·5	− 896·3
317	4	Lalande 16350.....	+ 3·35 = −·584	− ·786	+·577	+·777	−·084	−·179	+·006	−2694·7	− 903·5
318	5	π Cancri.....	+14·47 = −·960	− ·129	+·946	+·127	−·260	−·460	+·002	− 67·6	− 913·7
319	11	Piazzi XIV. 22.....	−24·41 = +·907	− ·299	−·903	+·294	+·526	+·585	+·013	+2152·6	− 963·8
321	11	C.G.A. 19332.....	−18·17 = +·885	+ ·360	−·877	−·359	+·321	+·450	+·002	+2770·5	− 964·0
322	11	O.A. 13514.....	−26·36 = +·937	− ·157	−·929	+·153	+·460	+·578	+·010	+2123·4	− 964·0
323	11	Lalande 26150.....	−23·55 = +·948	+ ·029	−·937	−·031	+·390	+·550	+·006	+2026·9	− 964·1
325	12	Mayer 611.....	−24·33 = +·924	− ·037	−·918	+·034	+·484	+·577	+·009	+2590·4	− 967·3
327	14	Lacaille 7294.....	−21·13 = +·752	+ ·549	−·742	−·546	+·347	+·493	−·002	+2615·4	− 969·2
328	17	ρ Capricorni.....	−17·40 = +·868	− ·400	−·870	+·396	+·471	+·435	+·014	+1928·4	− 962·0
329	17	Bradley 2627.....	−20·30 = +·938	− ·140	−·939	+·136	+·538	+·523	+·011	+3159·2	− 962·0
330	17	Lalande 39450.....	−12·67 = +·263	+ ·961	−·258	−·957	+·258	+·330	−·011	+2450·8	− 961·9
331	26	...				See note on p. 14E.					
332	27	B.D. + 26° 726...	+11·54 = −·668	− ·673	+·657	+·672	−·248	−·397	+·010	− 373·2	− 889·4
333	Apr. 24	Piazzi IV. 287.....	+16·70 = −·898	− ·098	+·888	+·100	−·356	−·494	+·008	+1741·6	− 886·7
334	24	W.B. (2) IV. 1315	+13·68 = −·792	− ·479	+·783	+·480	−·306	−·441	+·011	+ 816·2	− 886·7
335	25	139 Tauri.....	+14·75 = −·683	+ ·655	+·676	−·650	−·288	−·393	−·002	+2701·4	− 885·3
337	25	W.B. (2) V. 1685.	+19·30 = −·875	+ ·253	+·868	−·249	−·377	−·485	+·004	+2566·4	− 885·3
338	26	B.D. + 24° 1423..	+ 9·22 = −·684	− ·663	+·674	+·660	−·155	−·310	+·009	− 789·4	− 886·3
339	26	B.D. + 24° 1427..	+12·77 = −·814	− ·454	+·803	+·453	−·227	−·397	+·008	+ 8·4	− 886·3
340	26	Lalande 13279.....	+14·68 = −·915	− ·006	+·908	+·009	−·380	−·486	+·008	+2266·8	− 886·5
341	28	θ Cancri.....	+12·71 = −·342	+ ·933	+·338	−·924	−·264	−·321	−·009	+2617·6	− 896·3
343	29	B.D. + 14° 2073..	+11·75 = −·926	− ·301	+·914	+·297	−·205	−·396	+·003	− 735·9	− 905·3
344	30	W.B. IX. 1271....	+17·96 = −·689	+ ·717	+·679	−·707	−·347	−·490	−·010	+1333·9	− 916·9
345	30	W.B. IX. 1311....	+16·03 = −·980	+ ·131	+·967	−·130	− 307	−·506	·000	+ 753·9	− 917·5
346	May 2	W.B. XI. 680.....	+17·34 = −·999	+ ·010	+·985	−·009	−·303	−·511	+·001	+ 338·2	− 946·5
347	16	B.D. + 12° 131 (*pr*)	−21·18 = +·976	+ ·078	−·971	−·076	+·413	+·496	+·007	+2656·9	− 910·5
348	16	75 Piscium.....	−19·53 = +·911	+ ·365	−·904	−·361	+·421	+·523	+·002	+2839·8	− 910·2
349	26	W.B.(2)VIII.1390	+19·62 = −·764	+ ·612	+·758	−·607	−·382	−·482	−·002	+2808·5	− 895·5
351	26	B.D. + 15° 1975..	+14·88 = −·912	+ ·335	+·904	−·331	−·392	−·503	+·003	+2682·6	− 895·7
352	29	B.D. + 0° 2777...	+15·00 = −·479	+ ·878	+·473	−·866	−·340	−·438	−·013	+1370·4	− 928·1
353	June 2	Piazzi XIV. 212 (N*)	+10·17 = −·305	+ ·945	+·306	−·932	−·352	−·342	−·017	+ 354·8	− 987·5
355	2	Piazzi XIV. 212 (S*)	+13·18 = −·304	+ ·946	+·305	−·932	−·352	−·341	−·017	+ 357·0	− 987·5
357	2	B.D. − 21° 4029..	+20·21 = −·534	− ·221	+·521	+·217	−·120	−·312	+·007	+ 837·0	− 989·8
358	2	Lalande 27453.....	+21·88 = −·848	+ ·407	+·835	−·401	−·410	−·607	−·004	+1328·6	− 989·8
360	2	Mayer 611.....	+21·87 = −·831	+ ·438	+·828	−·441	−·566	−·603	+·003	+3531·9	− 991·9
362	6	50 Sagittarii.....	−21·89 = +·770	+ ·555	−·764	−·554	+·487	+·583	·000	+3274·7	− 995·7
363	6	Mayer 810.....	−18·46 = +·833	− ·441	−·824	+·433	+·358	+·482	+·013	+1333·5	− 994·9
364	7	Mayer 877.....	−20·91 = +·927	+ ·251	−·915	−·244	+·420	+·604	−·008	− 976·1	− 985·7
365	8	B.D. − 11° 5636..	−23·15 = +·746	+ ·649	−·738	−·638	+·433	+·560	−·014	− 236·7	− 967·4

313. Observer identified as B.D. + 23° 1741.
317. ,, ,, ,, Lalande 16283.

Digitized by Google

No.	Date.	Star.	Resulting Equations.									
			"									
366	1898 June 8	B.D. − 11° 5634..	−24·38 = +·923Δα	+ ·338Δδ	−·912Δα′	−·331Δδ′	+·421ΔT	+·586Δl	−·010Δφ′	− 990·2p	− 967·4s	
367	8	Lalande 42160.....	− 9·44 = −·014	+1·000	+·013	−·986	+·248	+·222	−·015	+1489·8	− 967·3	
368	13	105 Piscium.....	−15·94 = +·925	− ·283	−·918	+·284	+·302	+·410	+·011	+1693·4	− 905·4	
370	21	Lalande 15646.....	+ 9·47 = −·196	+ ·978	+·199	−·976	−·284	−·237	−·009	+2519·3	− 885·8	
373	22	W.B. VIII. 1065...	+20·20 = −·782	+ ·582	+·779	−·578	−·437	−·482	·000	+3178·1	− 890·1	
374	22	Piazzi VIII. 183...	+16·52 = −·950	+ ·155	+·945	−·152	−·410	−·490	−·006	+2714·7	− 890·1	
376	23	B.D. + 12° 2067..	+17·21 = −·617	+ ·777	+·613	−·771	−·381	−·446	−·005	+2922·7	− 896·1	
378	25	B.D. + 2° 2388...	+17·34 = −·997	+ ·078	+·984	−·077	−·300	−·489	+·002	+1148·2	− 914·2	
379	25	Lalande 21441.....	+17·99 = −·992	+ ·124	+·989	−·123	−·453	−·499	+·007	+2926·0	− 916·0	
380	25	Lalande 21446.....	+19·80 = −·860	+ ·511	+·858	−·509	−·490	−·524	+·001	+3308·7	− 916·0	
381	30	Lalande 28282.....	+12·84 = −·304	+ ·944	+·302	−·928	−·275	−·310	−·017	+ 321·9	− 984·1	
382	30	C.G.A. 21222.....	+25·78 = −·780	+ ·526	+·768	−·519	−·383	−·569	−·005	+1528·8	− 985·9	
383	30	C.G.A. 21216.....	+16·23 = −·574	+ ·780	+·564	−·769	−·311	−·461	−·010	+1469·4	− 985·9	
384	30	42 Libræ.....	+18·64 = −·596	+ ·760	+·586	−·750	−·320	−·474	−·009	+1682·0	− 986·1	
386	July 24	Lalande 23312.....	+14·85 = −·216	+ ·976	+·212	−·964	−·271	−·324	−·013	+1818·1	− 927·3	
387	24	B.D. − 7° 3411...	+ 7·60 = −·780	− ·615	+·772	+·607	−·123	−·251	+·012	+ 253·9	− 927·4	
388	25	B.D. − 13° 3684..	+ 9·10 = −·056	+ ·998	+·054	−·984	−·203	−·234	−·015	+1338·9	− 939·1	
389	25	Lalande 24769.....	+ 7·97 = −·029	+1·000	+·026	−·992	−·170	−·219	−·014	+1632·7	− 940·4	
392	Aug. 6	75 Piscium.....	− 0·58 = −·223	+ ·974	+·219	−·965	+·150	+·089	−·013	+1967·5	− 931·9	
393	21	Lalande 24322.....	+20·03 = −·951	+ ·232	+·941	−·231	−·399	−·542	+·003	+2397·5	− 933·3	
394	23	O.A. 14054.....	+23·75 = −·746	+ ·601	+·736	−·595	−·371	−·526	−·004	+2166·5	− 952·0	
395	23	Piazzi XIV. 212 (N*)	+19·36 = −·897	+ ·270	+·889	−·270	−·444	−·569	+·004	+2726·9	− 952·4	
396	23	Piazzi XIV. 212 (S*)	+22·08 = −·897	+ ·272	+·889	−·272	−·446	−·569	+·004	+2732·8	− 952·4	
397	24	Lacaille 6579.....	+25·22 = −·913	+ ·053	+·900	−·053	−·378	−·577	+·003	+1125·1	− 960·9	
398	25	C.Z. XVI. 3733...	+22·07 = −·853	− ·330	+·844	+·324	−·406	−·551	+·011	+1392·2	− 970·2	
399	25	Bradley 2153.....	+18·80 = −·718	− ·608	+·711	+·597	−·355	−·457	+·014	+ 966·2	− 970·3	
400	25	26 Ophiuchi.....	+ 8·07 = −·327	− ·932	+·327	+·919	−·194	−·195	+·017	− 87·4	− 970·4	
401	25	C.Z. XVI. 3846....	+23·52 = −·878	+ ·236	+·868	−·236	−·423	−·578	+·003	+2357·8	− 970·5	
402	26	C.G.A. 24584.....	+23·87 = −·876	− ·259	+·864	+·254	−·419	−·591	+·009	+1226·8	− 977·7	
403	26	C.Z. XVII. 3857..	+ 5·02 = −·132	− ·989	+·133	+·974	−·160	−·139	+·017	− 536·5	− 977·8	
404	26	Piazzi XVII. 342...	+ 2·62 = −·008	−1·000	+·011	+·986	−·112	−·058	+·016	− 850·8	− 977·9	
405	27	Mayer 779.....	+17·29 = −·492	− ·844	+·483	+·835	−·279	−·413	+·010	−1837·4	− 982·3	
406	Sept. 3	η Piscium.....	−20·38 = +·853	+ ·474	−·847	−·470	+·452	+·544	+·001	+3058·8	− 932·9	
407	17	W.B. XII. 777.....	+23·75 = −·982	+ ·025	+·980	−·027	−·493	−·517	+·009	+2885·7	− 937·2	
408	19	Lalande 26719.....	+11·74 = −·706	− ·659	+·706	+·652	−·308	−·313	+·016	+1076·0	− 952·2	
409	20	Lalande 28414.....	+21·79 = −·916	+ ·098	+·905	−·098	−·408	−·575	+·004	+1970·3	− 957·9	
410	20	Lalande 28446.....	+19·60 = −·865	− ·340	+·857	+ 333	−·387	−·500	+·012	+1696·8	− 958·0	
411	20	Lalande 28466.....	+22·62 = −·920	+ ·001	+·911	−·002	−·439	−·568	+·007	+2316·0	− 958·1	
412	21	C.Z. XVI. 2234....	+19·80 = −·712	+ ·620	+·724	−·612	−·654	−·482	−·006	+1682·6	− 963·1	
413	23	B.D. − 22° 4896..	+15·35 = −·509	− ·833	+·509	+·822	−·422	−·408	+·017	− 381·7	− 970·6	
414	23	ν^1 Sagittarii.....	+23·57 = −·895	+ ·229	+·889	−·231	−·458	−·544	+·005	+3063·7	− 970·7	
415	23	Lalande 35103.	+23·12 = −·835	− ·417	+·833	+·410	−·542	−·572	+·014	+1950·5	− 970·7	
416	23	C.G.A. 25857.....	+21·44 = −·918	− ·036	+·914	+·032	−·521	−·586	+·009	+2759·6	− 970·7	
417	23	ν^2 Sagittarii.....	+23·72 = −·892	+ ·241	+·888	−·244	−·475	−·539	+·006	+3182·5	− 970·7	
418	25	C.G.A. 28445.....	+23·38 = −·954	− ·097	+·941	+·098	−·373	−·577	−·001	− 969·8	− 971·8	
419	25	B.D. − 16° 5691..	+22·80 = −·951	− ·125	+·938	+·126	−·376	−·581	−·001	− 979·3	− 971·8	
420	26	Lalande 42160.....	+23·36 = −·932	− ·308	+·921	+·306	−·425	−·591	−·001	−2243·0	− 969·8	
421	30	75 Piscium.....	−36·48 = +·977	− ·061	−·969	+·062	+·384	+·503	+·009	+2221·7	− 939·5	
422	Oct. 20	23 Sagittarii.....	+14·30 = −·465	− ·861	+·463	+·848	−·335	−·367	+·017	− 202·5	− 971·9	
424	20	Lalande 34164.....	+22·07 = −·793	− ·499	+·786	+·491	−·451	−·549	+·014	+1344·3	+ 971·8	

373, 374. S. T. diminished 1 hour.
378. Observer identified as Lalande 21262.
413. " " " " 35053.

Digitized by Google

No.	Date.	Star.	Resulting Equations.								
			"								
425	1898 Oct. 20	Cor. D. − 23° 14441.	+16·52	= −·611Δα	− ·744Δδ	+·608Δα′	+·732Δδ′	−·398ΔT	−·452Δl	+·016Δφ′	+ 681·7p − 971·8s
426	22	B.D. − 16° 5621..	+24·00	= −·879	− ·392	+·867	+·386	−·413	−·584	+·010	+ 675·6 − 966·5
427	22	Lalande 39527.....	+20·67	= −·609	− ·771	+·605	+·760	−·433	−·498	+·016	+ 324·8 − 966·3
428	24	W.B. XXII. 203...	+21·84	= −·823	− ·560	+·812	+·552	−·392	−·567	+·008	− 993·6 − 956·8
429	24	51 Aquarii.....	+24·46	= −·875	− ·475	+·869	+·471	−·483	−·573	+·014	+1332·4 − 955·9
430	Nov. 16	Bradley 2276.....	+24·42	= −·909	+ ·089	+·905	−·093	−·538	−·602	+·008	+3034·1 − 986·0
431	19	B.D. − 12° 5925..	+18·82	= −·463	− ·879	+·459	+·867	−·385	−·447	+·016	− 420·9 − 968·7
432	30	Lalande 13171.....	−12·68	= +·536	− ·813	−·531	+·805	+·276	+·355	+·005	−2801·5 − 885·8
433	Dec. 18	B.D. − 3° 5487...	+21·46	= −·966	− ·252	+·957	+·249	−·440	−·574	−·010	+1683·3 − 964·0
434	18	W.B. XXII. 744..	+ 9·14	= −·036	− ·999	+·036	+·993	−·265	−·261	+·015	−1808·3 − 963·4
436	19	W.B. XXIII. 517.	+ 3·88	= +·269	− ·963	−·268	+·957	−·110	−·089	+·011	−2609·3 − 950·0
437	20	Lalande 436.....	+16·30	= −·348	− ·936	+·344	+·929	−·314	−·384	+·014	−1296·6 − 937·2
438	21	W.B. I. 45.....	+17·69	= −·975	+ ·018	+·962	−·018	−·298	−·497	+·002	+ 785·8 − 926·1
439	22	W.B. (2) I. 1326...	+16·20	= −·936	+ ·202	+·923	−·201	−·272	−·457	·000	+1327·9 − 915·4
440	22	Piazzi I. 243.....	+13·53	= −·808	+ ·533	+·798	−·527	−·189	−·336	−·003	+2288·3 − 915·3
441	27	Anon.	+15·47	= −·892	− ·229	+·879	+·225	−·272	−·463	+·002	− 658·0 − 885·2
442	27	B.D. + 24° 1300.	+15·25	= −·907	− ·142	+·894	+·139	−·283	−·477	+·001	− 313·6 − 885·2
445	27	B.D. + 24° 1296..	+15·97	= +·911	− ·110	−·899	+·106	+·305	+·496	·000	− 701·2 − 885·1
447	27	B.D. + 24° 1303..	+15·05	= −·628	+ ·729	+·620	−·723	−·261	−·386	−·005	+2270·3 − 885·1
451	27	B.D. + 24° 1306..	+17·62	= −·907	+ ·147	+·894	−·146	−·305	−·496	·000	+ 899·5 − 885·1
453	27	Anon.	+15·35	= −·672	+ ·681	+·664	−·675	−·277	−·408	−·004	+2228·1 − 885·1
455	27	B.D. + 24° 1305..	+17·18	= −·768	+ ·547	+·757	−·543	−·298	−·450	−·003	+1968·3 − 885·1
458	27	B.D. + 24° 1311..	+16·39	= −·917	+ ·016	+·904	−·016	−·302	−·493	+·002	+ 717·0 − 885·1
459	27	Arg. + 24° 1310..	+15·55	= −·890	− ·241	+·877	+·239	−·271	−·460	+·004	+ 11·3 − 885·1
460	27	B.D. + 24° 1309..	+16·00	= −·781	+ ·523	+·771	−·519	−·305	−·455	−·002	+2036·1 − 885·1
465	27	B.D. + 24° 1308..	+11·87	= −·748	− ·578	+·737	+·574	−·192	−·360	+·007	− 962·1 − 885·1
468	27	B.D. + 24° 1313..	+16·26	= −·916	− ·047	+·905	+·047	−·303	−·488	+·003	+ 850·8 − 885·0
470	28	δ Geminorum.....	− 9·61	= +·785	+ ·536	−·777	−·532	+·233	+·350	−·001	+2586·5 − 883·4
472	30	o¹ Cancri.....	− 9·56	= +·105	− ·994	−·101	+·989	+·164	+·218	+·012	−1923·7 − 883·8
474	1899 Jan. 15	B.D. + 0° 4980...	+21·81	= −·992	+ ·125	+·987	−·125	−·428	−·503	+·007	+3·0021 − 972·0
475	15	Piazzi XXIII. 21..	+16·40	= −·866	+ ·501	+·864	−·499	−·311	−·341	+·001	+3519·2 − 971·6
476	18	W.B. (2) I. 942 ...	+18·27	= −·810	− ·538	+·800	+·536	−·375	−·524	+·012	+ 317·4 − 926·6
477	18	Bradley 236.....	+ 6·20	= −·443	+ ·887	+·441	−·881	−·047	−·079	−·007	+3029·9 − 926·5
478	19	Lalande 4926	+15·49	= −·592	− ·777	+·583	+·772	−·287	−·424	+·011	−1015·8 − 914·0
479	19	Lalande 4932	+13·29	= −·495	− ·850	+·487	+·845	−·258	−·381	+·011	−1291·2 − 913·9
481	Feb. 2	Piazzi XIV. 22.....	−16·70	= +·852	+ ·445	−·841	−·439	+·222	+·395	−·002	+1831·0 − 933·1
482	4	Lacaille 6689.	−20·51	= +·501	+ ·837	−·496	−·836	+·174	+·249	−·006	+3023·4 − 959·3
484	4	Lacaille 6710.....	−21·73	= +·840	+ ·398	−·933	−·398	+·390	+·497	+·002	+2996·2 − 960·1
486	16	Lalande 5961	+ 9·32	= −·224	− ·971	+·218	+·965	−·149	−·232	+·011	−2144·0 − 917·2
487	16	B.D. + 22° 466....	+17·51	= −·899	− ·252	+·890	+·253	−·388	−·525	+·009	+2527·1 − 916·5
488	16	B.D. + 22° 468...	+21·96	= −·676	− ·685	+·668	+·686	−·323	−·448	+·013	+ 113·9 − 916·4
489	16	Lalande 6065	+17·62	= −·915	− ·168	+·908	+·170	−·411	−·525	+·009	+1977·3 − 916·3
490	17	B.D. + 24° 631...	+15·34	= −·808	− ·470	+·798	+·470	−·331	−·477	+·010	+ 665·4 − 904·7
492	17	Lalande 7767	+13·10	= −·730	− ·603	+·721	+·603	−·301	−·441	+·011	+ 240·9 − 904·6
494	20	B.D. + 23° 1513..	+15·61	= −·909	+ ·166	+·897	−·166	−·308	−·493	+·001	+1097·3 − 885·3
496	21	79 Geminorum.....	+16·59	= −·874	+ ·367	+·866	−·364	−·376	−·489	+·002	+2607·3 − 883·7
498	Mar. 16	26 Tauri	+17·94	= −·903	− ·201	+·894	+·203	−·393	−·530	+·009	+1676·1 − 919·5
501	16	Piazzi III. 161.....	+18·28	= −·877	− ·308	+·868	+·310	−·388	−·523	+·012	+1434·2 − 919·4
503	16	Piazzi III. 163.....	+14·67	= −·845	+ ·399	+·840	−·395	−·379	−·449	+·003	+3112·5 − 919·2
504	16	27 Tauri	+ 8·77	= −·298	− ·946	+·292	+·945	−·145	−·244	+·013	−1384·8 − 919·2

433. S. T. diminished 1ᵐ; original $s-S=+47''.46$.
441. Observer identified as B. D. +24°·1298.

Digitized by Google

No.	Date.	Star.	Resulting Equations.								
			"								
507	1899 Mar. 16	Piazzi III. 165.....	+17·51 = −·912Δα	− ·142Δδ	+·905Δα′	+·145Δδ′	−·419ΔT	−·530Δl	+·009Δφ′	+2078·4p	− 919·2s
508	20	δ Geminorum.....	+11·95 = −·875	− ·343	+·887	+·337	−·597	−·419	−·001	−1981·1	− 887·4
509	27	Mayer 539.....	See note on p. 22E.								
510	May 1	Lalande 39357.....	−32·18 = +·952	+ ·128	−·938	−·124	+·372	+·581	−·003	− 247·0	− 970·1
511	3	W.B. XXII. 148...	−24·83 = +·949	+ ·298	−·938	−·294	+·421	+·584	+·001	+2307·2	− 966·7
512	3	B.D. − 6° 5951...	−25·58 = +·899	+ ·426	−·888	−·422	+·430	+·586	−·001	+2406·7	− 966·7
513	3	B.D. − 6° 5957...	−27·53 = +·805	+ ·586	−·795	−·578	+·416	+·573	−·005	+2193·6	− 966·6
514	3	B.D. − 6° 5955...	−21·24 = +·994	+ ·005	−·981	−·005	+·354	+·541	+·005	+1437·4	− 966·6
515	3	B.D. − 6° 5959...	−22·55 = +·994	+ ·003	−·981	−·004	+·350	+·540	+·004	+1323·4	− 966·6
516	3	44 Aquarii.....	−23·96 = +·986	+ ·128	−·973	−·127	+·371	+·565	+·002	+1437·4	− 966·6
518	12	132 Tauri.....	+12·75 = −·676	− ·675	+·667	+·675	−·224	−·356	+·012	+ 27·1	− 903·5
521	12	B.D. + 24° 972...	+15·86 = −·657	+ ·697	+·655	−·692	−·358	−·392	−·002	+ 31·8	− 903·5
522	12	W.B. (2) V. 1340..	+16·06 = −·700	+ ·644	+·698	−·640	−·373	−·415	−·001	+3230·1	− 903·5
523	13	B.D. + 22° 1451..	+18·16 = −·830	+ ·442	+·825	−·438	−·402	−·483	+·002	+2979·5	− 896·0
524	13	B.D. + 22° 1453..	+14·67 = −·563	+ ·794	+·563	−·789	−·361	−·367	−·004	+3194·0	− 895·9
525	13	B.D. + 23° 1477...	+ 2·23 = −·375	− ·915	+·368	+·914	−·026	−·129	+·013	−1038·3	− 895·9
526	13	Lalande 12925.....	+13·96 = −·879	− ·315	+·871	+·317	−·337	−·448	+·011	+1587·0	− 895·9
527	13	Lalande 12932.....	+15·84 = −·915	− ·151	+·908	+·154	−·379	−·481	+·009	+2056·8	− 895·8
528	13	B.D. + 23° 1477..	− 0·15 = −·235	− ·967	+·229	+·967	+·043	−·049	+·012	−1486·5	− 895·8
529	14	B.D. + 20° 1842 (*fr.*)	+11·21 = −·610	+ ·761	+·606	−·755	−·345	−·404	−·004	+3019·0	− 890·6
530	14	B.D. + 20° 1842 (*br.*)	+14·01 = −·609	+ ·762	+·605	−·756	−·345	−·404	−·004	+3021·4	− 890·6
531	14	B.D. + 20° 1844..	+15·69 = −·930	+ ·146	+·921	−·143	−·361	−·496	+·004	+2187·1	− 890·6
532	14	W.B. (2) VII. 835.	+17·26 = −·873	+ ·373	+·869	−·370	−·427	−·494	+·003	+3003·3	− 890·4
533	14	Piazzi VII. 144....	+14·46 = −·936	− ·108	+·929	+·110	−·369	−·468	+·009	+2138·1	− 890·4
534	19	Piazzi XI. 77.....	+15·75 = −·999	+ ·011	+·987	−·011	−·288	−·470	+·004	+1212·8	− 903·4
535	19	B.D. − 1° 2527...	+18·98 = −·751	+ ·660	+·743	−·652	−·358	−·489	−·006	+2210·1	− 903·5
536	20	Lalande 22853.....	+13·32 = −·350	+ ·936	+·346	−·923	−·299	−·362	−·014	+1210·7	− 912·7
537	24	δ Scorpii.....	+ 8·54 = −·353	− ·924	+·355	+·913	−·185	−·158	+·017	− 182·5	− 964·9
538	24	δ Scorpii.....	−15·07 = +·403	− ·899	−·396	+·895	+·217	+·321	+·009	−2444·5	− 965·1
539	27	33 Sagittarii.....	−24·39 = +·920	− ·127	−·920	+·123	+·574	+·580	+·011	+2737·0	− 980·7
540	27	ξ Sagittarii.....	+16·00 = −·313	− ·942	+·307	+·938	−·214	−·299	+·010	−2489·8	− 980·7
541	27	ξ Sagittarii.....	− 8·67 = +·452	− ·874	−·454	+·865	+·230	+·198	+·017	+ 73·8	− 980·7
542	27	O.A. 18878.....	−13·78 = +·662	− ·701	−·661	+·693	+·349	+·352	−·017	+ 968·4	− 980·7
543	27	π Sagittarii.....	−13·17 = +·260	+ ·960	−·258	−·944	+·255	+·282	−·017	+ 499·1	− 981·0
544	June 10	B.D. + 21° 1555..	+16·26 = −·710	+ ·650	+·708	−·646	−·404	−·442	−·001	+ 319·5	− 891·4
545	11	W.B. (2) VII. 1588.	+14·03 = −·612	+ ·766	+·609	−·760	−·370	−·413	−·004	+3070·6	− 887·4
546	12	Mayer 392.....	+14·16 = −·969	− ·031	+·959	+·032	−·312	−·459	+·006	+1727·5	− 885·4
547	12	Lalande 17552.....	+15·86 = −·953	+ ·189	+·945	−·186	−·370	−·488	+·005	+2436·3	− 885·3
548	12	Cape 1900, 4378...	+16·89 = −·923	+ ·306	+·916	−·303	−·385	−·493	+·003	+2634·4	− 885·3
549	12	B.D. + 14° 1990..	+ 7·28 = −·744	− ·642	+·736	+·640	−·129	−·250	+·013	+ 210·4	− 885·3
550	12	B.D. + 14° 1993..	+16·75 = −·970	− ·013	+·962	+·015	−·342	−·463	+·007	+2109·0	− 885·3
551	13	o Leonis.....	+ 8·92 = −·867	− ·475	+·860	+·474	−·199	−·314	+·012	+ 965·3	− 885·7
554	13	W.B. IX. 741.....	+13·99 = −·516	+ ·852	+·514	−·848	−·374	−·396	−·006	+2948·3	− 885·7
555	22	51 Ophiuchi.....	+21·25 = −·751	+ ·571	+·739	−·559	−·315	−·491	−·010	+ 190·9	− 982·6
557	25	τ Capricorni.....	−27·55 = +·863	+ ·445	−·852	−·441	+·451	+·615	−·001	+2421·9	− 993·0
559	July 18	δ Scorpii.....	+ 1·99 = −·141	− ·988	+·144	+·976	−·059	−·016	+·016	− 757·6	− 957·6
560	18	δ Scorpii.....	− 6·22 = +·167	− ·984	−·161	+·974	+·085	+·172	+·013	−1596·1	− 957·8
561	Aug. 10	Lalande 22853.....	+19·16 = −·939	+ ·327	+·932	−·325	−·399	−·502	+·003	+2754·1	− 893·8
562	14	Lalande 28213.....	+21·85 = −·754	+ ·585	+·743	−·574	−·323	−·494	−·010	+ 596·4	− 935·5
563	26	66 Arietis.....	−10·97 = +·668	− ·696	−·659	+·688	+·186	+·317	+·005	−2463·0	− 931·7

509. Original $s-S=-52''\cdot75$, with S. T. diminished $1^m=-31''\cdot29$.
542. S. T. diminished 1^m; original $s-S=-34''\cdot85$.

Digitized by Google

No.	Date.	Star.	Resulting Equations.									
			"									
564	1899 Aug. 27	Lalande 8202	−20·38	=	+·874Δα	− ·310Δδ	−·861Δα′	+·306Δδ′	+·292ΔT	+·486Δl	+·003Δφ′	− 821·4p	− 918·2s
565	27	62 Tauri	−20·01	=	+·879	− ·294	−·866	+·290	+·294	+·489	+·003	− 793·8	− 918·2
566	Sept. 9	O.A. 13571.....	+21·82	=	−·729	+ ·644	+·720	−·639	−·348	−·479	−·004	+2519·7	− 913·9
567	9	O.A. 13575.....	+22·03	=	−·779	+ ·575	+·771	−·571	−·371	−·495	−·002	+2609·2	− 913·9
568	12	C.Z. 17h 401.....	+23·33	=	−·888	+ ·249	+·876	−·247	−·370	−·546	+·001	+1851·3	− 948·0
569	12	Cor. D. −23° 13234.	+24·13	=	−·916	− ·040	+·905	+·038	−·395	−·563	+·006	+1673·4	− 948·0
570	12	O.A. 16470.....	+15·76	=	−·591	− ·765	+·586	+·753	−·291	−·363	+·016	+ 460·0	− 948·0
571	12	C.P.D. − 23° 6544	+23·00	=	−·884	+ ·266	+·873	−·264	−·374	−·544	+·002	+2001·7	− 948·1
572	12	O.A. 16474.....	+11·83	=	−·430	− ·883	+·428	+·870	−·165	−·264	+·017	+ 79·4	− 948·1
573	Oct. 10	Lalande 32729	+14·42	=	−·465	− ·863	+·463	+·851	−·289	−·321	+·017	+ 148·0	− 948·6
574	10	O.A. 17410	+24·38	=	−·905	− ·185	+·898	+·180	−·448	−·562	+·010	+2019·8	− 948·9
576	10	B.D. − 22° 4473..	+26·22	=	−·915	− ·114	+·909	+·109	−·466	−·565	+·010	+2321·6	− 949·1
577	10	Lalande 32847	+25·26	=	−·911	− ·146	+·905	+·141	−·468	−·564	+·010	+2282·1	− 949·1
579	10	Lalande 32852.....	+22·49	=	−·723	− ·620	+·721	+·611	−·434	−·470	+·015	+1215·6	− 949·1
581	10	Lalande 32865.....	+24·17	=	−·897	− ·229	+·892	+·224	−·483	−·560	+·012	+2214·8	− 949·2
583	10	B.D. − 22° 4481..	+20·35	=	−·790	+ ·516	+·782	−·514	−·348	−·460	−·000	+2952·3	− 949·2
585	10	Lalande 32886.....	+23·76	=	−·900	+ ·214	+·894	−·216	−·443	−·541	+·005	+2885·8	− 949·3
587	10	Cape 1900, 4394...	+23·29	=	−·900	+ ·217	+·893	−·219	−·444	−·541	+·005	+2891·5	− 949·3
588	10	B.D. − 22° 4482..	+14·14	=	−·710	+ ·638	+·702	−·636	−·294	−·405	−·003	+2911·9	− 949·3
590	11	36 Sagittarii	+23·87	=	−·870	− ·359	+·862	+·353	−·431	−·565	+·011	+1395·5	− 958·0
591	13	W.B. XX. 1209 ...	+24·11	=	−·968	− ·090	+·957	+·087	−·419	−·580	+·008	+1772·4	− 975·1
592	27	o Leonis	−16·90	=	+·924	− ·348	−·917	+·348	+·390	+·493	+·011	+1501·6	− 886·3
593	Nov. 6	O.A. 17100.....	+18·73	=	−·599	− ·760	+·601	+·752	−·426	−·394	+·016	+ 365·4	− 950·5
594	7	B.D. − 21° 5108..	+18·28	=	−·776	+ ·551	+·769	−·549	−·321	−·426	−·001	+1455·1	− 956·6
595	7	Lalande 34658	+24·47	=	−·921	− ·145	+·917	+·140	−·524	−·576	+·011	+2537·7	− 956·7
597	7	C.G.A. 22719	+22·56	=	−·857	+ ·391	+·853	−·392	−·425	−·488	+·003	+1993·3	− 956·9
598	7	O.A. 18626.....	+26·70	=	−·925	− ·119	+·924	+·115	−·565	−·576	+·011	+2683·6	− 956·9
599	7	Lalande 34718.....	+23·11	=	−·727	− ·626	+·729	+·620	−·534	−·501	+·016	+1194·1	− 956·9
600	7	O.A. 15982.....	+14·32	=	−·600	+ ·765	+·596	−·764	−·229	−·297	−·004	+3204·3	− 956·9
601	10	W.B. XXI. 599....	+26·08	=	−·967	− ·188	+·956	+·185	−·418	−·580	+·009	+1479·5	− 969·0
602	10	Piazzi XXI. 186...	+19·68	=	−·959	+ ·231	+·949	−·230	−·341	−·487	+·003	+2487·8	− 969·0
603	10	Lalande 41973.....	+24·29	=	−·948	− ·271	+·940	+·267	−·456	−·587	+·011	+1660·8	− 969·0
604	11	W.B. XXII. 455..	+25·42	=	−·800	− ·597	+·793	+·590	−·468	−·575	+·015	+ 666·5	− 970·9
607	11	Lalande 43981.....	+23·50	=	−·710	− ·702	+·707	+·697	−·494	−·549	+·016	+ 584·1	− 970·9
608	12	Lalande 45712.....	+12·37	=	−·054	− ·999	+·053	+·987	−·250	−·262	+·014	−1977·4	− 971·1
609	13	36 Piscium	+22·56	=	−·662	− ·746	+·653	+·739	−·407	−·531	+·014	− 547·3	− 969·4
612	14	75 Piscium	+11·11	=	−·006	−1·000	+·006	+·989	−·216	−·207	+·012	−2538·8	− 966·1
613	18	99 Tauri.....	−19·14	=	+·918	− ·072	−·908	+·074	+·397	+·546	+·007	+1827·9	− 931·6
614	22	W.B. (2) VIII. 635	−17·16	=	+·625	− ·761	−·618	+·759	+·315	+·425	+·013	− 270·8	− 893·1
615	22	W.B. (2) VIII. 645	−23·66	=	+·830	− ·495	−·821	+·494	+·350	+·485	+·011	+ 644·2	− 893·1
616	22	Mayer 366	−10·52	=	+·808	+ ·546	−·802	−·541	+·213	+·316	−·001	+2787·4	− 893·0
617	Dec. 8	W.B. (2) XXII. 67	+21·52	=	−·521	− ·852	+·516	+·842	−·403	−·479	+·016	− 404·1	− 971·0
618	8	Bradley 2920	+16·64	=	−·254	− ·967	+·252	+·957	−·336	−·357	+·016	−1153·4	− 970·9
619	13	μ Arietis.....	+21·07	=	−·805	− ·528	+·793	+·521	−·357	−·536	+·006	−1370·6	− 944·9
621	1900 Jan. 5	Lalande 44670.....	+ 2·33	=	+·333	− ·943	−·332	+·938	−·061	−·037	+·011	−2810·1	− 980·4
622	6	W.B. XXIII. 774.	+20·55	=	−·547	− ·836	+·543	+·832	−·426	−·492	+·016	− 303·1	− 972·5
623	23	Virginis 40 H.....	−13·77	=	+·357	− ·928	−·356	+·917	+·306	+·319	+·016	− 412·5	− 907·3
624	Feb. 3	d Piscium	+16·64	=	−·846	+ ·522	+·843	−·519	−·319	−·363	+·001	+3527·4	− 982·9
626	8	W.B. (2) IV. 1223	+17·72	=	−·893	− ·243	+·881	+·242	−·352	−·541	+·006	+ 411·2	− 919·0
628	12	Mayer 366.....	+18·35	=	−·918	+ ·310	+·907	−·307	−·336	−·500	·000	+1805·3	− 889·1

567. S. T. diminished 1m; original s—S=+44″·34.
569. S. T. increased 1m; original s—S=+0″·56.
622. Identified by observer as W.B. XXIII. 934.
626. S. T. diminished 1m; original s—S=+37″·21; identified by observer as Lalande 9503.

Digitized by Google

No.	Date.	Star.	Resulting Equations.								
			"								
629	1900 Mar. 5	W.B. (2) II. 951...	+21·68 = −·778Δα	− ·571Δδ	+·770Δα′	+·571Δδ′	−·413ΔT	−·543Δl	+·013Δφ′	+ 659·2p	− 963·8s
630	5	W.B. (2) II. 958...	+22·15 = −·744	− ·619	+·736	+·619	−·404	−·528	+·014	+ 514·3	− 963·7
631	6	B.D. + 21° 526...	+20·50 = −·801	− ·512	+·793	+·513	−·404	−·519	+·013	+1054·2	− 947·3
632	7	Bradley 654.....	+11·82 = −·490	− ·848	+·482	+·846	−·186	−·310	+·013	− 899·2	− 932·2
635	8	Piazzi V. 192.....	+18·77 = −·897	+ ·240	+·888	−·236	−·448	−·575	+·004	−2525·0	− 918·5
636	23	Lalande 33147.....	−21·99 = +·867	− ·353	−·867	+·348	+·496	+·501	+·013	+2085·0	− 940·5
637	23	Mayer 734.....	−18·55 = +·750	− ·588	−·750	+·582	+·432	+·420	+·015	+1353·6	− 940·5
638	23	14 Sagittarii.....	−24·15 = +·852	+ ·396	−·840	−·390	+·341	+·530	−·003	+1349·4	− 942·7
639	23	B.D. − 21° 4918..	−22·27 = +·658	+ ·705	−·648	−·695	+·275	+·431	−·009	+1308·0	− 942·7
640	23	O.A. 17878.....	−25·16 = +·811	+ ·486	−·799	−·479	+·328	+·511	−·005	+1227·3	− 942·8
641	26	ν Aquarii.....	−23·65 = +·971	− ·114	−·961	+·112	+·392	+·548	+·008	+1836·9	− 983·3
643	Apr. 2	τ Arietis.....	+23·77 = −·864	− ·394	+·857	+·396	−·483	−·575	+·013	+1696·4	− 968·0
644	5	η Geminorum	+18·33 = −·925	− ·091	+·912	+·090	−·326	−·524	+·003	+ 509·2	− 923·0
646	16	ι Libræ.....	−22·07 = +·918	+ ·224	−·910	−·217	+·356	+·477	−·010	−1765·3	− 908·3
648	May 3	B.D. + 21° 1387.	+10·52 = −·258	+ ·962	+·258	−·955	−·231	−·225	−·008	+2929·8	− 924·0
649	3	B.D. + 21° 1403..	+18·98 = −·937	− ·035	+·930	+·038	−·425	−·525	+·008	+2388·3	− 923·2
650	5	B.D. + 15° 1835 *seq.*	+12·75 = −·516	+ ·846	+·510	−·837	−·294	−·384	−·008	+2455·5	− 901·3
651	5	B.D. + 15° 1835 *pr.*	+13·24 = −·448	+ ·886	+·443	−·877	−·278	−·356	−·008	+2513·6	− 901·2
652	5	B.D. + 15° 1839.	+17·50 = −·829	+ ·514	+·819	−·509	−·338	−·493	−·003	+1975·1	− 901·2
653	16	52 Ophiuchi.....	−25·43 = +·903	+ ·222	−·892	−·221	+·374	+·541	+·002	+1972·8	− 934·0
654	16	Bradley 2219	−22·56 = +·885	− ·296	−·872	+·293	+·325	+·519	+·006	+ 165·4	− 934·7
655	16	58 Ophiuchi.....	−18·49 = +·715	− ·636	−·704	+·631	+·248	+·407	+·006	−1810·5	− 935·7
656	20	W.B. XXI. 397....	−26·89 = +·772	+ ·619	−·764	−·614	+·433	+·553	−·003	+2835·5	− 963·4
657	20	19 Aquarii.....	−25·31 = +·975	+ ·130	−·966	−·130	+·434	+·570	+·006	+2487·5	− 963·4
658	8	Lalande 25075.....	+18·92 = −·964	+ ·143	+·954	−·138	−·349	−·500	−·008	−1494·8	− 897·8
659	June 8	W.B. XIII. 445...	+19·28 = −·874	+ ·440	+·866	−·432	−·370	−·502	−·011	− 894·2	− 897·9
662	8	Piazzi XIII. 126...	+10·58 = −·766	− ·618	+·756	+·612	−·135	−·282	+·005	−1985·6	− 897·9
663	13	Mayer 734.....	−39·55 = +·795	+ ·517	−·790	−·518	+·434	+·508	+·001	+3253·8	− 946·3
664	13	μ Sagittarii.....	−16·38 = +·338	− ·932	−·337	+·917	+·133	+·155	+·017	− 275·2	− 947·4
665	14	Bradley 2402	−32·78 = +·921	− ·203	−·918	+·199	+·491	+·535	+·012	−2424·5	− 955·1
666	14	*d* Sagittarii	−25·82 = +·829	+ ·479	−·817	−·470	+·267	+·452	−·008	+ 261·1	− 956·7
668	14	45 Sagittarii.....	−21·06 = +·846	− ·447	−·836	+·445	+·294	+·454	+·001	−2274·8	− 957·5
669	July 3	Lalande 22259.....	+18·54 = −·805	+ ·591	+·796	−·584	−·333	−·478	−·005	+1999·4	− 886·8
670	3	B.D. − 2° 3415...	+14·98 = −·983	− ·174	+·973	+·172	−·269	−·418	+·009	+1393·4	− 886·8
671	4	B.D. − 7° 3420...	+19·38 = −·727	+ ·679	+·717	−·670	−·316	−·459	−·008	+1581·2	− 888·5
673	6	Virginis 40 II.	+19·86 = −·845	+ ·477	+·836	−·474	−·363	−·497	−·001	+2450·3	− 901·4
676	10	58 Ophiuchi.....	+24·36 = −·869	− ·346	+·863	+·350	−·445	−·537	−·003	−3046·3	− 945·8
677	Aug. 4	C.G.A. 21033.....	+21·71 = −·934	− ·101	+·923	+·099	−·324	−·502	+·006	+1119·3	− 910·5
679	4	Mayer 621.....	+21·08 = −·934	− ·101	+·923	+·099	−·324	−·502	+·006	+1125·3	− 910·5
681	7	μ Sagittarii.....	+22·64 = −·926	− ·094	+·923	+·100	−·520	−·568	−·008	−2982·1	− 949·3
683	8	*d* Sagittarii	+24·56 = −·926	+ ·188	+·919	−·180	−·446	−·546	−·011	−2201·3	− 965·3
686	8	Mayer 797.....	+24·30 = −·939	− ·089	+·931	+·093	−·452	−·585	−·006	−2484·2	− 965·4
687	8	Piazzi XIX. 43....	+22·58 = −·720	− ·647	+·710	+·643	−·371	−·512	+·005	−2499·2	− 965·6
688	13	*d* Piscium.....	−12·57 = +·751	− ·655	−·743	+·648	+·181	+·289	+·004	−3062·5	− 988·5
689	17	A Tauri.....	−14·95 = +·680	− ·685	−·672	+·687	+·248	+·362	+·014	+ 354·1	− 947·9
690	28	Lalande 23852.....	+16·05 = −·968	− ·197	+·962	+·194	−·334	−·420	+·010	+2027·3	− 883·4
691	28	Lalande 23853.....	+15·00 = −·938	− ·312	+·933	+·308	−·310	−·387	+·012	+1781·6	− 883·4
692	28	Lalande 23884.....	+14·12 = −·915	− ·374	+·912	+·371	−·321	−·367	+·013	+1761·9	− 883·4
694	30	B.D. − 15° 3858.	+10·84 = −·622	− ·762	+·618	+·752	−·149	−·216	+·015	+ 281·4	− 890·9
695	Sept. 1	Piazzi XV. 244	+19·42 = −·905	− ·248	+·894	+·243	−·315	−·483	+·008	+ 980·7	− 908·2

639, 640. Observer's identification transposed.
658. S. T. increased 5^m; original $s-S=-86''\cdot60$.

Digitized by Google

No.	Date.	Star.	Resulting Equations.								
			"								
696	1900 Sept. 1	O.A. 15204.....	+16·32	= −·665Δα	+ ·702Δδ	+·656Δα′	−·694Δδ′	−·261ΔT	−·406Δl	−·007Δφ′	+1906·3p − 908·6s
698	1	Lalande 29305.....	+22·06	= −·922	− ·154	+·914	+·150	−·379	−·500	+·009	+1929·3 − 909·0
699	1	ω^2 Scorpii.....	+19·16	= −·833	− ·451	+·827	+·443	−·344	−·434	+·013	+1413·1 − 909·0
703	2	Bradley 2162.....	+22·26	= −·919	− ·141	+·915	+·136	−·472	−·528	+·010	+2440·0 − 922·7
707	4	Lalande 35497.....	+12·81	= −·618	+ ·755	+·612	−·752	−·199	−·295	−·005	+2953·4 − 954·1
708	13	Piazzi III. 128.....	−19·17	= +·704	+ ·662	−·700	−·657	+·441	+·491	−·001	+3424·6 − 965·4
710	28	λ Libræ.....	+19·76	= −·854	− ·413	+·854	+·408	−·429	−·434	+·013	+1820·5 − 899·4
712	Oct. 26	O.A. 15693.....	+21·24	= −·869	− ·363	+·870	+·357	−·465	−·466	+·013	+1973·7 − 903·6
713	Nov. 2	Lalande 44930.....	+18·24	= −·891	+ ·454	+·887	−·452	−·340	−·401	+·002	+3434·2 − 982·1
714	13	*h* Leonis.....	− 5·58	= +·678	+ ·726	−·674	−·721	+·149	+·210	−·004	+3067·3 − 902·3
715	26	O.A. 20061.....	+22·22	= −·949	− ·140	+·943	+·137	−·455	−·550	+·010	+2262·3 − 936·9
717	26	O.A. 20089.....	+22·92	= −·935	− ·222	+·932	+·218	−·512	−·553	+·012	+2332·6 − 937·3
718	26	Lalande 37969.....	+20·89	= −·661	− ·725	+·662	+·721	−·492	−·466	+·016	+ 689·5 − 937·5
723	26	*g* Sagittarii.....	+22·38	= −·820	− ·520	+·821	+·516	−·543	−·528	+·015	+1517·0 − 937·5
725	Dec. 5	67 Tauri.....	+18·32	= −·697	− ·665	+·686	+·658	−·318	−·480	+·007	−1930·3 − 975·7
726	9	Lalande 16224.....	−19·43	= +·962	+ ·072	−·954	−·070	+·393	+·513	+·007	+2421·2 − 928·7
728	26	B.D. − 4° 5662....	+23·18	= −·892	− ·445	+·887	+·442	−·498	−·578	+·014	+1522·4 − 960·7
729	26	W.B. XXII. 301..	+23·02	= −·901	− ·426	+·897	+·423	−·512	−·579	+·014	+1661·5 − 960·7
730	27	Piazzi XXIII. 21..	+20·17	= −·987	+ ·163	+·980	−·162	−·397	−·502	+·006	+2837·7 − 964·7
731	28	Lalande 47328	+22·36	= −·873	− ·480	+·864	+·477	−·448	−·582	+·013	+ 856·4 − 967·6
732	29	Piazzi 0. 255	+24·30	= −·984	− ·034	+·971	+·034	−·362	−·564	+·004	+ 888·1 − 969·3
733	30	Lalande 3635	+14·15	= −·332	− ·939	+·326	+·931	−·260	−·347	+·012	−2030·2 − 969·8
734	1901 Jan. 26	W.B. I. 653	+ 8·77	= −·164	− ·986	+·160	+·979	−·204	−·264	+·013	−2040·4 − 969·3
735	28	Piazzi III. 128.....	+17·72	= −·702	− ·667	+·693	+·666	−·346	−·480	+·013	+ 136·6 − 958·6
736	Feb. 11	41 Libræ.....	−15·90	= +·836	+ ·464	−·832	−·464	+·340	+·409	+·001	+3053·8 − 895·9
737	15	ρ Sagittarii.....	−22·95	= +·947	+ ·060	−·944	−·063	+·521	+·558	+·009	+2944·9 − 944·9
739	25	Lalande 8306	+20·32	= −·925	+ ·158	+·915	−·155	−·413	−·559	+·005	+2374·1 − 957·4
740	25	Piazzi IV. 82	+18·86	= −·825	− ·474	+·816	+·474	−·394	−·525	+·012	+1018·1 − 957·0
741	26	*o* Tauri.....	+16·24	= −·806	− ·505	+·796	+·505	−·332	−·481	+·012	+ 606·6 − 946·6
742	Mar. 10	28 Libræ.....	−17·98	= +·805	− ·531	−·801	+·524	+·412	+·460	+·014	+1332·8 − 888·4
743	25	W.B. (2) IV. 1367	+18·10	= −·876	− ·350	+·866	+·351	−·406	−·547	+·011	+1338·9 − 962·2
745	25	105 Tauri.....	+19·59	= −·855	− ·404	+·846	+·405	−·398	−·535	+·012	+1189·8 − 962·2
747	25	W.B. (2) IV. 1380	+18·01	= −·373	− ·917	+·366	+·916	−·134	−·238	+·014	+1137·4 − 961·9
748	26	Lalande 11468.....	+10·25	= −·534	− ·822	+·525	+·815	−·152	−·288	+·010	−1671·9 − 949·2
749	26	Lalande 11488.....	+ 3·02	= −·239	− ·967	+·233	+·960	−·018	−·103	+·011	−2238·4 − 948·8
750	26	Lalande 11561	+13·18	= −·514	+ ·837	+·511	−·830	−·308	−·344	−·005	+3241·1 − 948·3
752	28	5 Cancri.....	+14·15	= −·862	− ·443	+·853	+·442	−·271	−·409	+·011	+ 906·0 − 922·2
753	Apr. 4	α Virginis.....	+19·14	= −·761	+ ·632	+·761	−·627	−·459	−·459	−·015	−1002·2 − 883·1
757	4	α Virginis.....	−18·92	= +·968	− ·160	−·964	+·158	+·417	+·489	+·010	+2181·2 − 883·1
759	7	47 Libræ.....	−20·72	= +·926	+ ·190	−·919	−·190	+·367	+·472	+·005	+2581·3 − 888·5
760	7	β Scorpii (*pr.*).....	+21·60	= −·935	+ ·117	+·923	−·116	−·318	−·498	+·002	+1264·3 − 889·7
761	7	β Scorpii (*pr.*).....	−21·12	= +·940	+ ·025	−·932	−·019	+·362	+·494	−·007	+1976·2 − 890·0
762	7	β Scorpii (*seq.*)	−21·04	= +·941	+ ·011	−·932	−·006	+·361	+·495	−·007	−1993·4 − 890·0
763	10	C.G.A. 25557.....	−15·59	= +·528	+ ·829	−·520	−·816	+·233	+·346	−·013	+ 672·7 − 914·7
765	21	W.B. (2) IV. 678.	+14·78	= −·570	− ·794	+·562	+·793	−·272	−·397	+·014	− 417·0 − 984·0
766	24	*f* Geminorum	+16·80	= −·878	− ·396	+·866	+·393	−·268	−·451	+·008	+ 58·2 − 938·8
767	May 5	Mayer 671	−21·51	= +·913	+ ·225	−·904	−·217	+·343	+·485	−·009	−1450·3 − 893·0
768	20	B.D. + 20° 1337...	+22·25	= −·801	+ ·522	+·796	−·518	−·461	−·534	+·001	+3351·6 − 972·6
769	21	B.D. + 18° 1553...	+22·26	= −·814	+ ·518	+·808	−·513	−·461	−·538	+·001	+3281·3 − 957·3
770	24	W.B. IX. 1028	+16·64	= −·955	− ·268	+·943	+·266	−·247	−·429	+·007	+ 499·7 − 913·8

759. S. T. increased 5^m; original $s-S=+88''\cdot24$.
765. Identified by observer as W.B (2) IV. 727.

Digitized by Google

No.	Date.	Star.	Resulting Equations.								
			"								
772	1901 June 5	γ Sagittarii	$-23\cdot72 = +\cdot944\Delta\alpha$	$+\cdot187\Delta\delta$	$-\cdot932\Delta\alpha'$	$-\cdot182\Delta\delta'$	$+\cdot346\Delta T$	$+\cdot536\Delta l$	$-\cdot005\Delta\phi'$	$-606\cdot8p$	$-922\cdot3s$
773	12	19 Arietis	$-17\cdot85 = +\cdot516$	$+\cdot847$	$-\cdot516$	$-\cdot843$	$+\cdot453$	$+\cdot447$	$-\cdot006$	$+3369\cdot8$	$-985\cdot4$
775	21	Lalande 20205	$+13\cdot78 = -\cdot336$	$+\cdot942$	$+\cdot334$	$-\cdot933$	$-\cdot300$	$-\cdot336$	$-\cdot010$	$+2597\cdot2$	$-914\cdot7$
776	22	Lalande 21441	$+21\cdot00 = -\cdot912$	$+\cdot410$	$+\cdot902$	$-\cdot406$	$-\cdot354$	$-\cdot511$	$-\cdot001$	$+2085\cdot2$	$-904\cdot0$
777	22	Lalande 21446	$+19\cdot93 = -\cdot682$	$+\cdot732$	$+\cdot674$	$-\cdot724$	$-\cdot348$	$-\cdot458$	$-\cdot006$	$+2456\cdot8$	$-903\cdot9$
778	22	B.D. + 0° 2760	$+17\cdot87 = -\cdot531$	$+\cdot847$	$+\cdot526$	$-\cdot839$	$-\cdot332$	$-\cdot407$	$-\cdot008$	$+2558\cdot6$	$-903\cdot8$
780	22	p^5 Leonis	$+\ 8\cdot47 = +\cdot050$	$+\cdot999$	$-\cdot050$	$-\cdot991$	$-\cdot162$	$-\cdot156$	$-\cdot014$	$+1739\cdot6$	$-903\cdot5$
782	25	α Virginis	$+18\cdot46 = -\cdot683$	$+\cdot719$	$+\cdot681$	$-\cdot712$	$-\cdot403$	$-\cdot434$	$-\cdot015$	$-\ 593\cdot7$	$-887\cdot2$
788	25	α Virginis	$-20\cdot00 = +\cdot973$	$-\cdot128$	$-\cdot965$	$+\cdot126$	$+\cdot360$	$+\cdot486$	$+\cdot008$	$+1825\cdot9$	$-887\cdot1$
789	July 10	ρ Arietis	$-26\cdot94 = +\cdot956$	$+\cdot040$	$-\cdot944$	$-\cdot039$	$+\cdot406$	$+\cdot589$	$+\cdot005$	$+1629\cdot3$	$-974\cdot9$
790	21	Lalande 23333	$+20\cdot34 = -\cdot973$	$+\cdot206$	$+\cdot963$	$-\cdot204$	$-\cdot357$	$-\cdot499$	$+\cdot003$	$+2212\cdot0$	$-895\cdot4$
791	Aug. 9	ζ Tauri	$-24\cdot47 = +\cdot908$	$-\cdot248$	$-\cdot903$	$+\cdot251$	$+\cdot493$	$+\cdot576$	$+\cdot012$	$+2153\cdot4$	$-961\cdot1$
792	18	Lalande 24119	$+17\cdot62 = -\cdot653$	$+\cdot751$	$+\cdot646$	$-\cdot744$	$-\cdot335$	$-\cdot434$	$-\cdot006$	$+2563\cdot9$	$-893\cdot3$
793	18	Lalande 24204	$+19\cdot87 = -\cdot851$	$+\cdot508$	$+\cdot848$	$-\cdot507$	$-\cdot441$	$-\cdot491$	$\cdot000$	$+3167\cdot1$	$-892\cdot9$
794	19	Piazzi XIII. 183	$+18\cdot32 = -\cdot963$	$-\cdot166$	$+\cdot956$	$+\cdot164$	$-\cdot329$	$-\cdot446$	$+\cdot009$	$+1838\cdot9$	$-888\cdot9$
795	19	86 Virginis	$+19\cdot55 = -\cdot973$	$-\cdot092$	$+\cdot965$	$+\cdot090$	$-\cdot349$	$-\cdot461$	$+\cdot008$	$+2051\cdot2$	$-888\cdot9$
796	22	Piazzi XVI. 3	$+20\cdot18 = -\cdot942$	$+\cdot052$	$+\cdot929$	$-\cdot051$	$-\cdot302$	$-\cdot497$	$\cdot000$	$+\ 305\cdot8$	$-891\cdot5$
797	22	ν Scorpii	$+20\cdot51 = -\cdot939$	$+\cdot088$	$+\cdot926$	$-\cdot085$	$-\cdot302$	$-\cdot498$	$\cdot000$	$+\ 346\cdot3$	$-891\cdot5$
798	22	ν Scorpii	$+20\cdot51 = -\cdot939$	$+\cdot088$	$+\cdot926$	$-\cdot086$	$-\cdot302$	$-\cdot498$	$\cdot000$	$+\ 347\cdot0$	$-891\cdot5$
799	24	Lalande 32861	$+12\cdot99 = -\cdot633$	$+\cdot739$	$+\cdot623$	$-\cdot728$	$-\cdot183$	$-\cdot327$	$-\cdot010$	$+\ 907\cdot4$	$-907\cdot6$
800	27	Mayer 885	$+23\cdot24 = -\cdot921$	$-\cdot333$	$+\cdot920$	$+\cdot329$	$-\cdot548$	$-\cdot566$	$+\cdot013$	$+2097\cdot2$	$-947\cdot8$
801	30	κ Piscium	$-23\cdot11 = +\cdot704$	$+\cdot710$	$-\cdot695$	$-\cdot700$	$+\cdot399$	$+\cdot545$	$-\cdot008$	$+2077\cdot1$	$-975\cdot7$
802	Sept. 19	Lalande 30506	$+22\cdot58 = -\cdot801$	$+\cdot523$	$+\cdot793$	$-\cdot520$	$-\cdot304$	$-\cdot436$	$-\cdot002$	$+2392\cdot1$	$-890\cdot6$
803	19	O.A. 15985 (*seq.*)	$+20\cdot79 = -\cdot823$	$-\cdot484$	$+\cdot819$	$+\cdot478$	$-\cdot369$	$-\cdot423$	$+\cdot014$	$+1477\cdot8$	$-890\cdot8$
804	19	B.D. − 19° 4435	$+\ 4\cdot56 = -\cdot172$	$-\cdot983$	$+\cdot175$	$+\cdot975$	$-\cdot111$	$-\cdot067$	$+\cdot012$	$-\ 880\cdot4$	$-890\cdot9$
805	20	Lalande 32065	$+20\cdot54 = -\cdot834$	$+\cdot461$	$+\cdot822$	$-\cdot455$	$-\cdot271$	$-\cdot443$	$-\cdot003$	$+1467\cdot6$	$-897\cdot1$
806	21	Mayer 748	$+\ 6\cdot55 = -\cdot212$	$-\cdot975$	$+\cdot210$	$+\cdot960$	$-\cdot142$	$-\cdot165$	$+\cdot016$	$-\ 688\cdot4$	$-906\cdot7$
807	21	Piazzi XVIII. 88	$+20\cdot42 = -\cdot925$	$-\cdot200$	$+\cdot913$	$+\cdot197$	$-\cdot332$	$-\cdot513$	$+\cdot006$	$+\ 788\cdot0$	$-906\cdot8$
808	21	B.D. − 19° 5041	$+19\cdot63 = -\cdot922$	$+\cdot216$	$+\cdot909$	$-\cdot214$	$-\cdot303$	$-\cdot489$	$\cdot000$	$+1263\cdot5$	$-906\cdot8$
809	21	O.A. 18330	$+15\cdot71 = -\cdot714$	$+\cdot655$	$+\cdot703$	$-\cdot646$	$-\cdot197$	$-\cdot354$	$-\cdot007$	$+1540\cdot7$	$-906\cdot9$
810	21	O.A. 18342	$+20\cdot25 = -\cdot944$	$\cdot000$	$+\cdot932$	$\cdot000$	$-\cdot332$	$-\cdot513$	$+\cdot004$	$+1272\cdot0$	$-907\cdot0$
811	21	B.D. − 19° 5056	$+21\cdot34 = -\cdot882$	$+\cdot356$	$+\cdot871$	$-\cdot352$	$-\cdot291$	$-\cdot461$	$-\cdot001$	$+1738\cdot5$	$-907\cdot1$
812	21	Piazzi XVIII. 95	$+20\cdot42 = -\cdot878$	$+\cdot367$	$+\cdot867$	$-\cdot363$	$-\cdot288$	$-\cdot457$	$-\cdot001$	$+1777\cdot5$	$-907\cdot1$
813	22	O.A. 19544	$+21\cdot73 = -\cdot889$	$-\cdot362$	$+\cdot880$	$+\cdot357$	$-\cdot380$	$-\cdot520$	$+\cdot010$	$+1125\cdot0$	$-919\cdot6$
815	25	30 Aquarii	$+17\cdot83 = -\cdot887$	$+\cdot447$	$+\cdot877$	$-\cdot441$	$-\cdot265$	$-\cdot410$	$-\cdot012$	$-\ 881\cdot1$	$-961\cdot6$
816	Oct. 15	O.A. 14755	$+24\cdot04 = -\cdot829$	$+\cdot488$	$+\cdot824$	$-\cdot488$	$-\cdot385$	$-\cdot460$	$+\cdot001$	$+2983\cdot4$	$-883\cdot1$
817	15	B.D. − 17° 4399	$+20\cdot73 = -\cdot924$	$-\cdot231$	$+\cdot922$	$+\cdot227$	$-\cdot420$	$-\cdot458$	$+\cdot011$	$+2185\cdot8$	$-883\cdot1$
818	17	B.D. − 19° 4612	$+15\cdot52 = -\cdot653$	$-\cdot719$	$+\cdot651$	$+\cdot711$	$-\cdot318$	$-\cdot345$	$+\cdot015$	$+\ 740\cdot5$	$-889\cdot1$
819	17	O.A. 16687	$+21\cdot07 = -\cdot893$	$-\cdot311$	$+\cdot889$	$+\cdot305$	$-\cdot402$	$-\cdot472$	$+\cdot012$	$+1886\cdot8$	$-889\cdot1$
820	18	B.D. − 19° 4907	$+18\cdot42 = -\cdot828$	$+\cdot479$	$+\cdot818$	$-\cdot476$	$-\cdot285$	$-\cdot422$	$-\cdot001$	$+2385\cdot4$	$-895\cdot5$
821	18	O.A. 17845	$+14\cdot66 = -\cdot693$	$+\cdot678$	$+\cdot685$	$-\cdot673$	$-\cdot217$	$-\cdot343$	$-\cdot005$	$+2315\cdot8$	$-895\cdot5$
822	18	B.D. − 19° 4910	$+20\cdot71 = -\cdot943$	$-\cdot011$	$+\cdot934$	$+\cdot009$	$-\cdot377$	$-\cdot502$	$+\cdot007$	$+2106\cdot8$	$-895\cdot6$
823	18	B.D. − 19° 4909	$+20\cdot16 = -\cdot811$	$-\cdot510$	$+\cdot806$	$+\cdot502$	$-\cdot371$	$-\cdot452$	$+\cdot013$	$+1247\cdot5$	$-895\cdot6$
824	18	O.A. 17880	$+20\cdot94 = -\cdot938$	$-\cdot101$	$+\cdot931$	$+\cdot098$	$-\cdot399$	$-\cdot503$	$+\cdot009$	$+2147\cdot2$	$-895\cdot7$
825	18	O.A. 17892	$+21\cdot54 = -\cdot849$	$-\cdot436$	$+\cdot845$	$+\cdot430$	$-\cdot406$	$-\cdot469$	$+\cdot013$	$+1593\cdot5$	$-895\cdot8$
826	18	B.D. − 19° 4921	$+13\cdot41 = -\cdot632$	$+\cdot743$	$+\cdot625$	$-\cdot738$	$-\cdot201$	$-\cdot306$	$-\cdot005$	$+2582\cdot5$	$-895\cdot8$
827	18	B.D. − 19° 4926	$+21\cdot53 = -\cdot895$	$+\cdot317$	$+\cdot888$	$-\cdot316$	$-\cdot359$	$-\cdot463$	$+\cdot003$	$+2716\cdot1$	$-895\cdot8$
828	18	Lalande 33525	$+21\cdot70 = -\cdot926$	$-\cdot190$	$+\cdot921$	$+\cdot186$	$-\cdot421$	$-\cdot500$	$+\cdot010$	$+2137\cdot8$	$-895\cdot8$
829	18	O.A. 17887	$+\ 7\cdot38 = -\cdot208$	$-\cdot975$	$+\cdot211$	$+\cdot967$	$-\cdot186$	$-\cdot150$	$+\cdot015$	$-\ 766\cdot2$	$-895\cdot9$
830	18	O.A. 17916	$+21\cdot31 = -\cdot862$	$-\cdot406$	$+\cdot858$	$+\cdot401$	$-\cdot421$	$-\cdot475$	$+\cdot013$	$+1717\cdot5$	$-895\cdot9$

775. S. T. increased 1^m; original $s-S=-4''\cdot49$.
797–8. N. star assumed to have disappeared first.

Digitized by Google

No.	Date.	Star.	Resulting Equations.								
			"								
831	1901. Oct. 18	B.D. − 19° 4939.	+20·92 = −·943Δα	− ·008Δδ	+·939Δα′	+·005Δδ′	−·440ΔT	−·502Δl	+·008Δφ′	+2587·4p	− 896·0s
832	18	O.A. 17946.....	+18·22 = −·673	− ·701	+·673	+·694	−·386	−·387	+·016	+ 842·7	− 896·1
833	18	C.P.D. −19° 6736	+21·25 = −·942	+ ·058	+·938	−·061	−·441	−·499	+·008	+2722·6	− 896·1
834	18	O.A. 17956.....	+19·01 = −·758	− ·595	+·758	+·589	−·422	−·428	+·015	+1237·4	− 896·1
835	18	Lalande 33564.....	+21·06 = −·939	+ ·101	+·935	−·103	−·441	−·495	+·007	+2793·4	− 896·1
836	18	O.A. 17970.....	+16·50 = −·767	+ ·583	+·762	−·582	−·313	−·384	−·001	+3061·0	− 896·2
837	19	B.D. − 17° 5468..	+13·31 = −·677	− ·702	+·674	+·694	−·365	−·416	+·015	+ 701·9	− 905·0
838	19	O.A. 19071.....	+12·76 = −·385	− ·914	+·385	+·904	−·279	−·278	+·016	− 252·9	− 905·1
839	19	Lalande 35694.....	+15·50 = −·559	− ·809	+·558	+·800	−·344	−·362	+·016	+ 321·5	− 905·2
840	21	Mayer 885.....	+19·06 = −·923	+ ·329	+·915	−·327	−·329	−·445	+·003	+2787·6	− 931·4
841	22	Lalande 42321.....	+17·87 = −·530	− ·844	+·525	+·833	−·358	−·434	+·016	− 428·7	− 946·4
842	24	κ Piscium.....	+11·52 = −·984	+ ·177	+·972	−·175	−·330	−·518	−·007	− 998·2	− 975·9
844	29	Lalande 8705	−23·76 = +·911	− ·255	−·897	+·251	+·379	+·591	+·004	− 437·0	− 994·7
845	Nov. 14	Lalande 32915.....	+20·55 = −·942	+ ·024	+·940	−·027	−·470	−·498	+·008	+2728·6	− 890·2
846	16	O.A. 19868.....	+20·49 = −·774	− ·591	+·769	+·583	−·398	−·465	+·014	+1029·7	− 904·1
847	16	Mayer 820.....	+12·91 = −·352	− ·931	+·353	+·924	−·310	−·280	+·016	− 496·4	− 904·6
848	Dec. 15	B.D. − 10° 5619..	+21·16 = −·956	− ·225	+·952	+·222	−·476	−·532	+·012	+2209·3	− 917·3
849	16	Piazzi XXI. 350...	+21·42 = −·931	− ·345	+·924	+·341	−·431	−·540	+·012	+1567·0	− 926·9
850	18	19 Piscium	+24·09 = −·832	− ·554	+·830	+·554	−·522	−·551	+·016	+1306·9	− 951·6
851	19	Lalande 860.....	+25·60 = −·860	− ·501	+·850	+·497	−·419	−·570	+·012	+ 471·2	− 962·9
852	22	Piazzi III. 60.....	+20·80 = −·711	− ·666	+·703	+·658	−·398	−·526	+·004	−2802·6	− 992·3
853	1902. Jan. 15	Lalande 343.....	+19·37 = −·607	− ·793	+·601	+·788	−·386	−·475	+·016	+3121·6	− 951·1
854	17	B.D. + 13° 338...	+20·55 = −·947	+ ·229	+·937	−·226	−·358	−·518	+·003	+2288·2	− 967 1
855	18	53 Arietis	+16·17 = −·546	− ·822	+·537	+·815	−·294	−·427	+·011	−1523·1	− 973·9
856	19	43 Tauri	+ 8·37 = −·415	+ ·899	+·411	−·890	−·136	−·202	−·008	+2987·3	− 979·2
857	31	ν Libræ.....	−17·64 = +·912	− ·311	−·904	+·306	+·359	+·490	+·010	+1314·1	− 887·8
858	Feb. 15	Lalande 7064	+16·94 = −·596	− ·779	+·587	+·773	−·286	−·429	+·011	−1253·5	− 968·7
859	17	χ^1 Orionis	+21·98 = −·921	+ ·213	+·908	−·211	−·388	−·581	+·001	+1550·7	− 968·5
861	Mar. 15	Lalande 8654	+19·73 = −·852	+ ·435	+·845	−·430	−·405	−·513	+·001	+3045·7	− 971·7
862	17	B.D. + 19° 1397.	+19·28 = −·909	− ·282	+·895	+·278	−·332	−·540	+·004	− 515·4	− 961·9
863	17	B.D. + 19° 1399..	+21·15 = −·947	− ·038	+·933	+·037	−·364	−·576	+·002	+ 258·9	− 961·9
864	17	W. B. (2) VI. 806.	+15·24 = −·705	− ·668	+·694	+·661	−·229	−·395	+·008	−1502·6	− 961·8
865	17	Lalande 12650.....	+16·89 = −·710	+ ·662	+·701	−·656	−·330	−·470	−·005	+2523·3	− 961·7
867	20	*h* Leonis	+19·55 = −·769	+ ·626	+·763	−·620	−·426	−·517	−·003	+3050·0	− 939·8
868	25	*h* Virginis.....	−18·27 = +·985	+ ·004	−·978	−·005	+·399	+·493	+·008	+2448·3	− 901·6
869	28	Lalande 29395.....	−20·18 = +·938	+ ·159	−·925	−·155	+·282	+·476	−·001	+ 404·9	− 886·5
870	29	29 Ophiuchi.....	− 7·73 = +·338	− ·934	−·334	+·920	+·136	+·194	+·015	− 630·3	− 886·2
871	Apr. 3	Lalande 41163.....	− 7·51 = +·092	+ ·994	−·089	−·990	+·152	+·194	−·012	+2065·3	− 924·6
872	11	W.B. (2) IV. 103..	+11·81 = −·396	− ·909	+·389	+·907	−·209	−·311	+·014	−1334·2	+ 987·1
873	13	B.D. + 19° 1297..	+23·71 = −·927	+ ·200	+·915	−·198	−·404	−·589	+·002	+1806·8	− 972·7
874	16	Mayer 408	+19·60 = −·817	− ·552	+·807	+·545	−·201	−·365	+·005	−1829·0	− 942·1
875	May 10	57 Orionis.....	+19·38 = −·744	+ ·616	+·739	−·610	−·429	−·503	−·001	+3410·7	− 991·8
876	10	B.D. + 19° 1128..	+ 3·91 = −·042	+ ·999	+·046	−·995	−·108	−·052	−·012	+2569·1	− 991·6
877	12	1 Cancri.....	+ 8·58 = −·100	+ ·994	+·101	−·985	−·185	−·176	−·011	+2747·3	− 968·6
879	June 10	Lalande 18696.....	+18·74 = −·918	− ·364	+·908	+·362	−·304	−·454	+·011	+1070·0	− 959·2
881	10	*h* Leonis	+19·51 = −·644	+ ·757	+·641	−·751	−·430	−·487	−·005	+3246·4	− 958·7
882	17	32 Libræ.....	+20·40 = −·938	− ·196	+·938	+·193	−·452	−·461	+·011	−2311·3	− 885·0
883	24	Lalande 41163.....	−22·48 = +·893	+ ·413	−·882	−·407	+·331	+·508	−·003	+1404·6	− 903·3
884	July 11	*f* Virginis.....	+18·99 = −·646	+ ·761	+·638	−·753	−·340	−·451	−·007	+2409·1	− 917·4
885	11	Mayer 534.....	+19·11 = −·656	+ ·752	+·651	−·747	−·380	−·454	−·005	+2981·6	− 916·5

Digitized by Google

No.	Date.	Star.	Resulting Equations.								
			"								
886	1902 July 11	Lalande 23656.....	+21·08 = −·979Δα	+ ·177Δδ	+·974Δα′	−·177Δδ′	−·441ΔT	−·521Δl	+·006Δφ′	+2856·3p	− 916·4s
887	18	Mayer 750	+20·89 = −·947	+ ·025	+·935	−·026	−·324	−·495	+·004	+1492·6	− 887·7
888	18	Piazzi XVIII. 91..	+20·06 = −·806	− ·524	+·798	+·516	−·324	−·444	+·012	+ 759·8	− 887·7
889	Aug. 7	Piazzi XII. 33.....	+23·42 = −·904	+ ·423	+·899	−·420	−·460	−·543	+·002	+3108·8	− 931·4
890	7	Piazzi XII. 32.....	+24·18 = −·895	+ ·442	+·889	−·440	−·457	−·541	+·001	+3120·9	− 931·4
891	Sept. 4	Mayer 537	+20·15 = −·763	+ ·642	+·759	−·640	−·456	−·503	−·002	+3289·5	− 927·6
892	14	Lalande 41163.....	+22·64 = −·980	− ·026	+·967	+·026	−·306	−·509	+·001	− 232·9	− 911·7
895	Oct. 11	Mayer 885	+12·73 = −·305	− ·917	+·301	+·904	−·222	−·270	+·015	− 645·3	− 904·5
896	18	Lalande 5671	−25·52 = +·834	+ ·505	−·826	−·499	+·453	+·575	·000	+2974·6	− 979·8
898	Nov. 6	Mayer 820.....	+19·48 = −·770	− ·598	+·763	+·589	−·337	−·440	+·013	+ 670·5	− 888·0
899	9	44 Aquarii	+21·85 = −·872	− ·479	+·871	+·477	−·501	−·516	+·014	+1558·6	− 916·0
900	17	Lalande 11088.....	−19·48 = +·613	− ·762	−·603	+·754	+·264	+·413	+·009	−1940·7	− 994·6
901	17	57 Orionis.....	−25·03 = +·832	− ·476	−·820	+·469	+·376	+·555	+·003	−2090·2	− 994·3
902	Dec. 20	75 Leonis.....	−11·11 = +·771	+ ·636	−·768	−·633	+·243	+·296	−·002	+3331·0	− 947·1
903	1903 Jan. 17	Lalande 22312.....	−21·77 = +·998	+ ·059	−·991	−·058	+·417	+·528	+·007	+2583·5	− 953·3
904	Feb. 7	Mayer 210	+20·27 = −·846	− ·450	+·833	+·446	−·353	−·549	+·006	− 804·4	− 980·4
906	19	24 Scorpii	−22·01 = +·946	− ·105	+·936	+·103	+·345	+·499	+·007	+1502·9	− 892·2
907	Mar. 5	Lalande 7524	+ 8·67 = −·385	+ ·916	+·386	−·911	−·173	−·158	−·008	+3103·4	− 957·4
908	19	Mayer 691	− 9·97 = +·229	− ·970	−·233	+·964	+·197	+·149	+·015	− 872·1	− 894·8
909	Apr. 2	B. D. + 18°·717...	+21·07 = −·861	− ·426	+·852	+·426	−·414	−·546	+·012	+1173·9	− 963·9
910	2	Mayer 177.....	+21·65 = −·935	− ·186	+·927	+·187	−·453	−·581	+·010	+1961·6	− 963·9
911	4	Lalande 13021.....	+15·63 = −·568	+ ·803	+·564	−·796	−·333	−·390	−·005	+3246·9	− 969·1
913	June 6	2 Libræ.....	+21·25 = −·890	+ ·418	+·884	−·412	−·427	−·522	−·012	−1425·8	− 917·3
914	July 12	c_2 Capricorni.....	−21·88 = +·983	− ·048	−·975	+·047	+·355	+·470	+·008	+2117·7	− 886·0
915	Aug. 1	η Libræ.....	+21·80 = −·962	+ ·036	+·951	−·036	−·344	−·511	+·004	+1606·7	− 907·2
916	26	m Virginis.....	+16·99 = −·472	+ ·879	+·469	−·878	−·364	−·398	−·008	+3026·0	− 949·5
918	Sept. 2	54 Sagittarii.....	+14·42 = −·667	+ ·718	+·659	−·706	−·175	−·292	−·014	+ 145·8	− 884·5
920	2	e Sagittarii.....	+21·28 = −·897	+ ·353	+·885	−·346	−·296	−·481	−·005	+ 380·2	− 884·4
923	Oct. 22	γ Libræ.....	+16·49 = −·734	− ·650	+·736	+·646	−·376	−·346	+·016	+ 980·9	− 931·0
925	Dec. 31	68 Tauri.....	+17·07 = −·744	− ·629	+·735	+·621	−·367	−·504	+·004	−2592·3	− 965·7
926	31	B. D. + 17°·750...	+27·46 = −·949	+ ·120	+·939	−·118	−·434	−·576	+·005	+2421·0	− 969·6
927	1904 Jan. 24	Piazzi I. 85.....	+18·86 = −·829	− ·551	+·826	+·551	−·452	−·494	+·015	+1227·4	− 907·6
928	Feb. 25	119 Tauri.....	+ 9·88 = −·475	+ ·866	+·468	−·858	−·157	−·261	−·009	+2477·7	+ 956·8
929	Mar. 4	l Virginis.....	−20·36 = +·501	− ·863	−·500	+·858	+·421	+·440	+·017	− 212·0	− 976·3
930	Apr. 22	Piazzi VII. 261....	+20·98 = −·809	+ ·538	+·804	−·534	−·452	−·531	·000	+3292·8	− 962·9
932	May 1	ϕ Ophiuchi.....	−24·23 = +·915	− ·293	−·903	+·288	+·357	+·551	+·006	+ 181·9	− 941·1
933	24	η Virginis	+21·10 = −·943	+ ·332	+·931	−·328	−·405	−·589	−·009	− 611·0	− 967·7
934	June 4	ρ Aquarii.....	−20·73 = +·975	− ·162	−·963	+·161	+·259	+·446	·000	−1022·2	− 887·6
935	July 7	38 Arietis.....	−26·11 = +·972	+ ·127	−·961	−·126	+·349	+·525	+·003	+1595·8	− 918·6
936	18	38 Virginis.....	+13·85 = −·184	+ ·983	+·183	−·981	−·268	−·283	−·012	+2454·9	− 967·8
937	22	ϕ Ophiuchi.....	+22·86 = −·887	+ ·378	+·877	−·376	−·379	−·524	·000	+2384·6	− 926·6
938	Sept. 13	13 Libræ.....	+25·59 = −·885	+ ·427	+·875	−·423	−·426	−·578	−·001	+2514·4	− 968·6
939	22	67 Aquarii	+19·60 = −·968	+ ·213	+·962	−·210	−·343	−·431	−·010	−1947·7	− 883·3
940	Oct. 27	m Tauri.....	−20·38 = +·844	− ·464	−·833	+·457	+·290	+·450	+·002	−2063·6	− 922·8
941	Dec. 16	77 Piscium.....	+18·95 = −·701	− ·712	−·694	+·707	−·343	−·444	+·014	+ 17·4	− 891·5
942	16	Bradley 125.....	+18·84 = −·708	− ·705	+·701	+·699	−·342	−·446	+·014	+ 53·9	− 891·5
943	1905 Jan. 26	80 Virginis.....	−26·79 = −·993	− ·064	+·990	+·064	−·499	−·550	−·008	−2991·8	− 970·2
944	Mar. 17	o^1 Cancri.....	+20·46 = −·958	− ·130	+·947	+·130	−·409	−·566	+·008	+1729·4	− 975·0
945	Apr. 16	σ Leonis.....	+13·21 = −·803	− ·590	+·792	+·582	−·193	−·364	+·007	−1796·5	− 991·9
946	24	ρ Sagittarii.....	−25·09 = +·917	− ·255	−·906	+·251	+·337	+·516	+·008	+ 806·4	− 932·0

900. S. T. increased 1^m; original s—S = −3″·90.
902. S. T. diminished 1^m; original s—S = −25″·87.

Digitized by Google

No.	Date.	Star.	Resulting Equations.									
			"									
947	1905 May 10	ζ Cancri	+18·20	= −·932Δα	− ·219Δδ	+·921Δα′	+·219Δδ′	−·352ΔT	−·517Δl	+·008Δφ′	+1224·2p	− 938·2s
948	10	Piazzi VIII. 6	+18·09	= −·933	− ·217	+·922	+·217	−·352	−·518	+·008	+1231·9	− 938·2
950	10	B.D. + 18° 1870	+22·85	= −·938	− ·189	+·928	+·189	−·362	−·523	+·008	+1420·8	− 938·3
951	June 12	80 Virginis	+21·26	= −·970	− ·223	+·964	+·220	−·422	−·515	+·012	+2183·2	− 978·4
952	21	37 Aquarii	−23·27	= +·786	+ ·597	−·776	−·589	+·323	+·482	−·006	+1551·5	− 908·1
953	July 7	σ Leonis	+ 4·15	= +·061	+ ·998	−·059	−·986	−·169	−·148	−·013	+2196·0	− 966·0
954	20	Mayer 997	−18·49	= +·930	− ·357	−·917	+·352	+·206	+·391	+·004	− 770·2	− 896·6
955	Aug. 7	15 Libræ	+20·82	= −·672	+ ·728	+·668	−·727	−·446	−·502	−·004	+3322·1	− 967·3
956	7	18 Libræ	+ 7·65	= −·725	− ·672	+·728	+·670	−·350	−·315	+·016	− 862·5	− 967·1
957	Sept. 12	λ Aquarii	+14·93	= −·402	− ·913	+·396	+·901	−·250	−·336	+·013	−1489·1	− 898·2
958	12	λ Aquarii	−21·51	= +·975	− ·166	−·962	+·165	+·260	+·456	+·001	− 654·9	− 897·9
959	Nov. 3	Mayer 877	+25·61	= −·903	− ·331	+·891	+·326	−·361	−·532	+·009	+ 721·8	− 928·1
960	28	(Y) Sagittarii	+24·52	= −·804	− ·522	+·805	+·517	−·523	−·505	+·015	+1603·5	− 976·9
961	30	B.D. − 17° 5948	+19·21	= −·468	− ·871	+·469	+·862	−·355	−·345	+·017	− 0·9	− 946·3
962	Dec. 2	37 Aquarii	+ 6·19	= −·002	−1·000	+·004	+·995	−·179	−·142	+·014	−1688·8	− 915·9
964	10	64 Tauri	+11·69	= −·326	− ·941	+·324	+·932	−·229	−·258	+·008	−2764·6	− 891·7
965	1906 Jan. 8	Lalande 11088	+22·82	= −·906	+ ·282	+·893	−·281	−·290	−·484	−·004	+ 527·3	− 905·6
966	11	θ Cancri	−20·48	= +·933	− ·199	−·927	+·201	+·450	+·548	+·011	+2075·4	− 930·6
967	Feb. 19	Mayer 815	− 9·34	= +·398	− ·907	−·402	+·904	+·269	+·201	+·016	− 490·8	− 947·8
968	Mar. 3	m Tauri	+ 7·07	= −·486	+ ·860	+·481	−·851	−·110	−·193	−·007	+2554·6	− 893·8
969	4	χ^2 Orionis	+17·17	= −·846	− ·442	+·837	+·442	−·328	−·471	+·011	+ 819·2	− 903·0
970	17	(Y) Sagittarii	−16·91	= +·469	− ·868	−·471	+·861	+·342	+·305	+·017	+ 8·6	− 956·4
971	20	29 Capricorni	−27·58	= +·898	+ ·357	−·893	−·357	+·460	+·535	+·003	+3102·3	− 927·8
972	Apr. 2	61 Geminorum	+ 8·58	= −·406	− ·902	+·399	+·896	+·302	+·195	+·011	−1765·6	− 911·6
973	10	18 Libræ	−25·75	= +·817	− ·553	−·806	+·545	+·432	+·601	+·012	+ 2·1	− 998·3
974	11	Lalande 28847	−23·63	= +·582	− ·799	−·584	+·795	+·521	+·482	+·017	+ 271·6	− 994·3
975	14	Bradley 2402	−27·58	= +·854	− ·420	−·843	+·413	+·359	+·515	+·011	+ 857·0	− 958·1
976	May 1	Mayer 394	+14·70	= −·618	+ ·763	+·612	−·756	−·325	−·414	−·005	+2863·3	− 922·3
977	9	φ Ophiuchi	−25·79	= +·802	− ·545	−·794	+·536	+·457	+·587	+·014	+ 814·8	−1001·6
978	17	4 Ceti	−22·32	= +·943	− ·328	−·939	+·326	+·457	−·395	+·012	+1852·5	− 899·5
979	June 4	18 Libræ	+23·32	= −·981	+ ·022	+·967	−·020	−·392	−·604	−·003	− 808·4	− 997·7
980	July 8	μ Capricorni	−31·80	= +·963	+ ·107	−·951	−·103	+·371	+·565	−·005	− 894·3	− 951·7
981	16	64 Tauri	+15·23	= −·569	− ·805	+·566	+·798	−·320	−·369	+·005	−2963·0	− 885·8
982	16	64 Tauri	−22·61	= +·953	− ·112	−·941	+·111	+·290	+·469	+·005	+ 888·6	− 885·9
983	Aug. 9	ν Piscium	−20·64	= +·639	+ ·768	−·631	−·759	+·381	+·502	−·008	+2058·0	− 900·7
984	10	Lalande 4602	−14·06	= +·334	+ ·941	−·330	−·931	+·252	+·309	−·010	+2285·6	− 893·2
985	24	B.D. − 5° 3798	+12·01	= −·765	− ·638	+·758	+·630	−·190	−·303	+·014	+ 420·1	− 965·2
986	Sept. 5	f Piscium	−19·61	= +·912	− ·407	−·903	+·404	+·238	+·373	+·011	+ 955·1	− 908·0
987	24	B.D. − 19° 4682	+24·19	= −·808	+ ·514	+·797	−·508	−·367	−·534	−·003	+2112·5	− 969·3
988	24	O.A. 17070	+27·55	= −·917	+ ·230	+·905	−·228	−·412	−·585	+·002	+2032·7	− 969·3
989	24	O.A. 17098	+24·67	= −·942	+ ·004	+·932	−·006	−·441	−·587	+·007	+2158·6	− 969·2
990	Oct. 28	27 Piscium	+19·37	= −·441	− ·897	+·435	+·885	−·298	−·382	+·013	−1202·3	− 913·9
991	Dec. 19	45 Capricorni	+28·62	= −·928	− ·266	+·925	+·262	−·538	−·583	+·013	+2273·0	− 963·9
992	28	Mayer 198	+21·21	= −·829	− ·482	+·818	+·475	−·300	−·466	+·003	−1616·9	− 882·7
993	28	107 Tauri	+40·30	= −·945	+ ·006	+·934	−·007	−·312	−·486	+·004	+1273·7	− 882·8

985. Identified by observer as B.D. − 5°·3799.

Digitized by Google

Occultations of Planets observed at the Royal Observatory, Cape of Good Hope, 1896–1906.

Date.	Planet.	Phase.	Instrument.	Observer.	Cape Sid. Time.	Greenwich Mean Time.	Remarks.
1896.					h m s	h m s	
Dec. 7	Venus, 1st contact.....	D.	7 inch	I.	19 36 23·2	1 15 14·8	Definition very bad.
	,, N. horn	D.	,,	I.	46·2	37·7	,,
	,, S. horn, last contact .	D.	,,	I.	37 40·2	16 31·6	,, Fair.
	,, ,, ,,	D.	10 inch	F.	36·7	28·1	,, ,,
	,, 1st contact.....	R.	7 inch	I.	20 20 28·2	1 59 12·5	,, ,,
	,, last ,, ...	R.	,,	I.	21 50·2	2 0 34·3	,, ,,
1906.							
Sept. 2	Saturn's Ring, 1st contact ...	D.B.	Hel.	H.	4 14 44·9	16 15 15·8	Full moon too bright for accurate observation.
	,, ,, ,, ...	,,	6 inch	P.	39·9	10·8	,,
	,, ,, ,, ...	,,	10 ,,	W.	44·4	15·3	,,
	,, ,, ,, ...	,,	7 ,,	A.P.	41·4	12·3	,,
	Saturn ,, ,, ...	,,	Hel.	H.	4 15 19·9	16 15 50·7	,,
	,, ,, ,, ...	,,	6 inch	P.	14·9	45·7	,,
	,, ,, ,, ...	,,	10 ,,	W.	11·4	42·2	,,
	,, ,, ,, ...	,,	7 ,,	A.P.	7·9	38·7	,,
	,, last ,, ...	,,	Hel.	H.	4 15 57·9	16 16 28·6	,,
	,, ,, ,, ...	,,	6 inch	P.	55·9	26·6	,,
	,, ,, ,, ...	,,	10 ,,	W.	54·9	25·6	,,
	Saturn's Ring, ,, ,, ...	,,	7 ,,	P.	4 16 28·9	16 16 59·5	,,
	,, ,, ,, ...	,,	10 ,,	W.	22·4	53·0	,,

Digitized by Google

Digitized by Google

EP

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google